L 39756-65 EWT(m)/EWP(t)/EWP(z)/EWP(b) Pad IJP(c) JD/HW
ACCESSION NR: AP4047422 S/0136/64/000/010/0020/0026

AUTHORS: Shoshina, I.A.; Rotinyan, A.L.

TITLE: The inclusion of certain impurities in the cathode deposit during the electroextraction of high-purity nickel

SOURCE: Tsvetny*ye metally*, no. 10, 1964, 20-26

TOPIC TAGS: nickel, electroextraction, cathode deposit, impurity, electrolyte, flow rate viscosity, convective diffusion

ABSTRACT: The authors discuss the maximum concentration of Pb, Sb, Bi, Tn, As and Zn in the electrolyte permissible in the electrowinning of highest purity Ni under different conditions of electrolysis. They suggest a method which makes it possible to compute these concentrations readily and accurately. They contend that each microgram of impurity per liter of electrolyte leads to the formation of 0.00007% (at.) impurity. Consequently, if the desired critical content of an impurity were to be a maximum 0.0001% (weight) its content in the electrolyte would have to be a maximum 0.04 mg/l for Pb, Sn, Zn, Sb and 0.03 mg/l for Bi and As. The electrolyte in

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all tests was composed of 60 g/l Ni ($NiSO_4$); 40 g/l Na_2SO_4; 50 g/l NaCl; 5 g/l H_3BO_3; pH = 2.3 to 2.4. The rate of flow of the electrolyte influenced the purity of the cathode deposit rather conspicuously. The authors investigated its effect and the circulation rate was varied from 20 to 150 ml/amp·hr. The cathode current density was 240 amp/m^2 and the cathode cell temperature 60°C. Experimental results coincided with calculations: all investigated specimens discharged at a critical current in the electroextraction of Ni from a sulfate - chloride electrolyte. With a circulation rate of 80 ml/amp·hr the effect on the rate of flow was less appreciable. Apparently, the factors which lower the velocity constant of convective diffusion lower the amount of impurities in the cathode deposit. The greater the electrolytic viscosity, the lower the constant of the rate of convective diffusion and the lower the rate of the inclusion of impurities in the cathode deposit. It follows that an increase in the electrolyte viscosity enhances the purity of the metal. Observations of the behavior of the impurities under the effect of temperatures showed that their contents in the deposit increases at raised temperatures. Orig. art. has: 5 figures, 2 tables and 7 equations.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001549910015-6"

[illegible], [illegible]; [illegible], [illegible]; [illegible], [illegible]

[illegible] of [illegible] factors on the regularities of a [illegible] deposition of main metal ions and impurity [illegible] discharged at a [illegible] current. Zhur. prikl. khim. 38 no.4:[illegible]-[illegible] Ap '65. (MIRA 18:6)

1. [illegible] institut imeni Lensoveta [illegible].

CTRSPL Vol. 5-No. 1 Jan. 1952

Shoshina, M. (N.F. Gamaleya Institute of Epidemiology, U.S.S.R. Academy of Sciences), A determination of the repeated gonotrophic cycle in mosquitoes, 181-3 - 1951

Akademiya Nauk, S.S.S R., Doklady Vol. 78, No. 1 - 1951

SHOSHINA, M.A.

Mechanism of transmission of cutaneous leishmaniasis. Doklady Akad. nauk SSSR 92 no.2:447-448 11 Sept 1953. (CIML 25:4)

1. Presented by Academician Ye. N. Pavlovskiy 15 July 1953. 2. Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR.

KRYUKOVA, A.P.; SHOSHINA, M.A.; SUVOROVA, L.G.; SHEKHANOV, M.V.

Epizootic foci of Borovskii's disease in Kara-Kum. Vop.kraev., ob. i eksp.paraz. i med.zool. 9:25-31 '55. (MLRA 10:1)

1. Iz otdela parazitologii i meditsinskoy zoologii (zav. akad. Ye.N.Pavlovskiy) Instituta epidemiologii i mikrobiologii imeni N.F.Gamaleya (dir. - deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR prof. G.V.Vygodchikov) Akademii meditsinskikh nauk SSSR. (KARAKUM--LEISHMANIOSIS) (GERBILS) (MOTH FLIES)

SHOSHINA, M.A.

"The Study of the Gonodotrophic Cycle in Mosquitos", Problems of Regional, General, and Experimental Parasitology and Medical Zoology, Vol. 9, 1955.

Division of Parasitology and Medical Zoology, Inst. Epidemiology and Microbilogy imeni N. F. Gamaleya, AMS USSR

Sum. 1305

SHOSHINA, M.A.

Studying the gonotrophic cycle in moth flies. Vop.kraev., ob. i eksp.paraz. i med.zool. 9:45-49 9:45-49 '55. (MLRA 10:1)

1. Iz otdela parazitologii i meditsinskoy zoologii (zav. - akad. Ye.N.Pavlovskiy) Instituta epidemiologii i mikrobiologii imeni N.F.Gamaleya (dir. - deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR prof. G.V.Vygodchikov) Akademii meditsinskikh nauk SSSR.
(MOTH FLIES)

SHOSHINA, M.A.

Mechanism of the transmission of the cutaneous leishmaniasis agent. Vop.kraev.paraz.Turk.SSR 3:133-136 '62. (MIRA 16:4)

1. Institut epidemiologii i mikrobiologii imeni N.F.Gamaleya AMN SSSR, Moskva.

(DELHI BOIL)
(SAND FLIES AS CARRIERS OF DISEASE)

SHOSHINA, M.A.

Survival of larvae of the chigger Trombicula zachvatkini Schlug. 1948 at low temperatures. Med. paraz. i paraz. bol. 34 no.3:355-356 My-Je '65. (MIRA 18:7)

1. Otdel bolezney s prirodnoy ochagovost'yu Instituta epidemiologii i mikrobiologii imeni N.F. Gamalei, Moskva.

SHOSHINA, M.A.

Laboratory cultivation of the chigger Trombicula zachvatkini Schlug., 1948. Med. paraz. i paraz. bol. 33 no.6:741-742 N-D '64. (MIRA 18:6)

1. Otdel prirodnoochagovykh bolezney Instituta epidemiologii i mikrobiologii imeni Gamalei, Moskva.

VASIL'YEV, L.L.; SHOSHINA, N.A.[deceased]

Restoring cardiac activity by excitation of the extracardiac nerves. Uch.zap.Len.un. no.164:58-75 '54. (MLRA 10:3)
(HEART) (VAGUS NERVE) (NERVOUS SYSTEM, SYMPATHETIC)

ROMANOVA, M.F.; KARTASHEV, A.I.; SHOSHINA, O.Yu.

Comparing results of the measuring of plane-parallel end-measure lengths by large interference equipment and by other methods. Trudy VNIIM no.7:41-46 '49. (MIRA 11:6)

(Interferometry)
(Standards of length--Measurement)

"Evaluating the Surface Finish of a Metal." Stanki i Instrument Vol. 15, No. 12, 1944

BR-52059019

ALEKSEYEVA, Ye.P.; SHOSHINA, O.Yu.

Comparing interferometers of the institutes of the committee. Trudy inst.Kom.stand.,mer i izm.prib no.47:63-79 '61. (MIRA 15:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I.Mendeleyeva.
(Interferometers—Testing)

SHOSHINA, S. V.

CHISTOVICH, G.N.; GORODYSKAYA, E.A.; KORNILOBA, N.M.; MOISEYEVA, N.I.; POLOZOVA, T.V.; TERENT'YEVA, T.A.; SHOSHINA, S.V.

Man as carrier of pathogennic staphylococci; author's abstract. Zhur.mikrobiol.epid.i immun. no.11:55-56 N '53. (MLRA 7:1)
(Staphylococcus) (Contagion and contagious diseases)

Abstract U-7920, 8 Mar 56

SHOSHINA, V.S.

Improving the quality of hydrolyzates for yeast production.
Gidroliz. i lesokhim. prom. 17 no.4:12-14 '64 (MIRA 17:7)

1. Chimkentskiy gidrolizmyy zavod.

SHOSHIYEV, L.N.

Mechanism of hemoglobin synthesis in oxygen deficiency. Ukr. biokhim.zhur. 31 no.1:43-52 '59. (MIRA 12:6)

1. Department of Biochemistry of the S.M.Kirov Military Medical Academy, Leningrad.
(HEMOGLOBIN) (OXYGEN--PHYSIOLOGICAL EFFECT)

GUDIMA, O.S.; KOLESNIKOVA, N.A.; SHOSHIYEV, L.N.

Cultivation of Hela cells on nutrient media with hydrolysates of human and equine albumins of blood serum. Vop.virus. 7 no.3:365-380 My-Je '61. (MIRA 14:7)

1. Institut virusologii AMN SSSR, imeni D.I.Ivanovskogo, Moskva.
(TUMORS) (VIRUSES)

SHOSHIYEV, L.N.

Obtaining tryptic hydrolysates from milk and serum albumins for growing tissue cultures. Ukr. biokhim. zhur. 34 no.3:387-393 '62. (MIRA 18:5)

RODIN, I.M.; KRAVCHENKO, A.T.; SERGEYEV, N.N.; SHOSHIYEV, L.N.

Experimental serotherapy of tick-borne encephalitis. Vop.med. virus. no.8:98-106 '63. (MIRA 18:10)

KRAVCHENK[illegible], A.T.; [illegible], I.[illegible]; [illegible], [illegible]; [illegible] M.[illegible]; [illegible], N.[illegible]; TARAS[illegible]V, V.V.

Preparation and purification of immune serums against tick-borne and Japanese encephalitis. Vop.med.virus. no.[illegible]:106-113 '63. (MIRA 17:10)

BULGARIA/Diseases of Farm Animals. General Problems. R

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40598.

Author : Pranszhev, I., Ghoshkov, D.
Inst : Higher Institute of Veterinary Medicine.
Title : The Problem of the Curdling of Milk from Healthy Cows and Goats.

Orig Pub: Nauchn. tr. Vissh. veterinarnomed. in-t, 1956, 4, 279-285.

Abstract: Cases were observed when milk obtained from clinically healthy cows and goats curdled on boiling. After the animals were treated with urotropin which was administered internally three times daily in doses of five grams for cows and of one gram for goats for a period of three days, the milk ceased

Card : 1/2

BULGARIA/Diseases of Farm Animals. General Problems

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40598

to curdle. Examination showed that there is more fat and albumen content and less casein in curdled milk than in milk which did not curdle and which has been obtained from the same animals after urotropin treatment; also, in this case the relationship between casein and albumen content is smaller.

Card : 2/2

SHOSHKOV, Docho

41

SHOSHKOV, St.
~~Surname (in caps); Given Names~~

Country: Bulgaria

Academic Degrees:

Affiliation: Senior Assistant at the Cathedra of Phthisic Science at the Institute for Specialized Medicine and for Perfecting Physicians (Institut za Spetsializatsiya i Usuvurshenstvuvane na Lekarite, USUL)

~~Source:~~

Source: Sofia, Sreden Meditsinski Rabotnik, No 2, 1961, pp 8-10

Data: "Chemical Prophylaxis of Tuberculosis."

SHOSHKOV, Ye., inzhener-kapitan-leytenant.

Underwater acoustics. Voen.znan. 31[i.e.32] no.5:16 My '56.
(Sonar) (MLRA 9:9)

SHOSHKOV, Ye., inzh.-kapitan III ranga

Russian inventors of hydroacoustical equipment. Mor. flot 21 no. 6:37 Je '61. (MIRA 14:6)

(Underwater acoustics)

SHOSHKOV, Ye.

"Metron"-type sounding device. Mor. flot 22 no.5:41 My '62.
(MIRA 15:5)
(Echo sounding--Equipment and supplies)

KARLOV, L.B.; SHOSHKOV, Ye.N.; MYASISHCHEV, V.I., red.;
KHORBECHKO, I.G., red.; SOKOLOVA, G.F., tekhn. red.

[Underwater acoustics in naval operation] Gidroakustika v voennom dele. Pod obshchei red. V.I.Miasishcheva. Moskva, Voenizdat, 1963. 148 p. (MIRA 16:6)
(Underwater acoustics)
(Naval art and science)

L 15301-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 WW/RM
ACCESSION NR: AP4048214 S/0191/64/000/011/0073/0073

AUTHOR: Shoshtayev, B. I.

TITLE: Conference on the production and uses of cellular plastics

SOURCE: Plasticheskiye massy*, no. 11, 1964, 73

TOPIC TAGS: cellular plastic, expanded plastic, polyurethane foam, polyvinyl-chloride foam

ABSTRACT: On June 23-27, 1964, a professional conference on the production and application of cellular plastics was held in Vladimir, organized by the Gosudarstvenny*y Komitet khimicheskoy promy*shlennosti pri Gosplane SSSR (State Committee on the Chemical Industry of the State Planning Commission of the SSSR) in cooperation with other organizations and involving the participation of about 350 persons, representing 120 organizations and firms. Almost all the industries interested in this field were represented. It was noted that the production of cellular plastics has increased 4.3 fold in the last 7 years. Many new cellular plastics have been developed, some of them have already been used in industry (polyurethane foam no-pressing polyvinyl chloride foam), and some are in the experimental stage, such as phenol-formaldehyde cellulose plastics, rigid polyurethane foam of the cast type, and carbamide cellular plastics of the cast type. The development

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L 15301-65
ACCESSION NR: AP4048214

of various types of porous plastics, foam formation and the preparation of expanded plastics, and their properties, especially toxicity, were discussed. Papers presented dealt with the wide application of cellular plastics in very different branches of industry, from heavy machine building to medicine. There was an intensive exchange of experiences concerning the use of expanded plastics in shipbuilding, house building, the garment industry, the refrigerator industry, furniture, medicine, radioelectronic industry, etc. A section was organized for the direct exchange of experiences between raw material plants and consumers, in order to delineate the required characteristics of these materials. As a result of the conference, measures are recommended for the further development of this young branch of industry. The participants in the conference expressed the opinion that the joint ambitious work of investigators, engineers, technicians and workers in this field will successfully fulfill the task set by state and industrial leaders concerning the extensive use of chemistry in the national economy.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 000 OTHER: 000

Card 2/2

BORISENKO, S.G., prof., doktor tekhn.nauk; SHASHURIN, S.I., kand.tekhn.nauk; TUBOL'TSEV, V.M., inzh.; PLAKSA, N.P., inzh.

Investigating the uncontrolled ore caving process at the Nikitovka strip mine. Gor.zhur. no.10:22-27 O '64. (MIRA 18:1)

LAMAKIN, Vasiliy Vasil'yevich; SHCHERBAKOV, D.I., akademik, otg. red.; SHOSKAL'SKAYA, N.D., red.

[On the shores and islands of Lake Baikal] Po beregam i ostrovam Baikala. Moskva, Nauka, 1965. 189 p.
(MIRA 18:10)

SOV/124-57-7-8508
Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 156 (USSR)

AUTHORS: Goldovskiy, Ye. A., Goykhman, I. E., Shossel', Ye. Z.

TITLE: Investigation of the Tensile Stress-strain Curve of a Plasticized and Non-plasticized Polyamide (Issledovaniye krivoy rastyazheniya neplastifitsirovannogo i plastifitsirovannogo poliamida)

PERIODICAL: Nauch. tr. Mosk. tekhnol. in-t legkoy prom-sti, 1956, Nr 7, pp 75-79

ABSTRACT: The paper submits the results of an investigation of the mechanical properties of polyamide films obtained by the usual extrusion of fused polyamide through a slit die and subsequently transferring it to a drum and later to a stretching machine. The elongation (up to 300% or up to failure) of non-plasticized polyamide (caprone of a molecular weight of 14 000) films and plasticized ones with an alcohol solution of resorcin (concentration from 0.35 to 100 g/ℓ over a period of 24-50 hours). Anisotropic samples of the films were cut out by a stamping die parallel to the basic orientation, perpendicular to it, and at a 45° angle. Curves of the stress-strain relationships (up to failure) at a constant (room) temperature and a constant rate of

Investigation of the Tensile Stress-strain Curve of a Plasticized (cont.)

elongation (2 mm/min) were obtained. The authors established the presence of three sharply defined parts of the process. There is a transition zone (hump) between the first (Hooke) zone and the second zone; the ratio of the maximum stress at the hump to the constant stress in the second part decreases with an increase in the concentration of the resorcin. Bibliography: 15 references.

A. N. Gerasimov

Card 2/2

Shost', A.D.

AUTHOR: Khasin, G.A. and Shost', A.D., Engineers 133-7-19/28

TITLE: Improvement in the Performance of Automatic Heat Treatment Furnaces with a Sliding Hearth. (Intensifikatsiya raboty avtomatizirovannykh termicheskikh pechey s vydvizhnym podom)

PERIODICAL: Stal', 1957, No.7, pp. 640 - 641 (USSR).

ABSTRACT: Modifications carried out during the transfer of heat-treating furnaces with a sliding hearth to automatic operation are described and illustrated (Figs. 1 and 2). It is pointed out that an automatic control of temperature and pressure in those furnaces without modification of the method of heating metal does not remove the temperature drop between the top and bottom of the charge. Uniform and rapid heating of metal under conditions of concentrated supply of heat from one side can be attained in the furnace only by producing a continuous gas stream i.e. with con-

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Improvement in the Performance of Automatic Heat Treatment Furnaces with a Sliding Hearth. (Cont.)

tinuous operation of spray burners (without periodic cuts). This can be achieved by placing the impulse thermocouples in the opposite side of the roof to the burners and the division of the soaking period into 3-4 steps with increasing temperatures. In order to prevent overheating of charges from the burners' side, a standard method of charging metal in relation to the roof should be maintained. As a result of an intensification of the furnace operation a 25% cut in the duration of active periods of heat treatment (heating up and soaking) with a considerable improvement of the quality of heating was obtained. The proportion of metal returned for re-treatment was decreased by 40%; the degree of decarburisation also decreased somewhat. A.I. Bogdashkin, A.P. Lebedev, V.A. Sterkhov, D.F. Sutubalov, V.Ya. Demidov, S.M. Kalinin, N.N. Nikitin, and others participated in the work. There are 2 figures and 2 Slavic references.

ASSOCIATION: Zlatoust Metallurgical Works (Zlatoustovskiy Metallurgicheskiy Zavod)

AVAILABLE: Library of Congress.

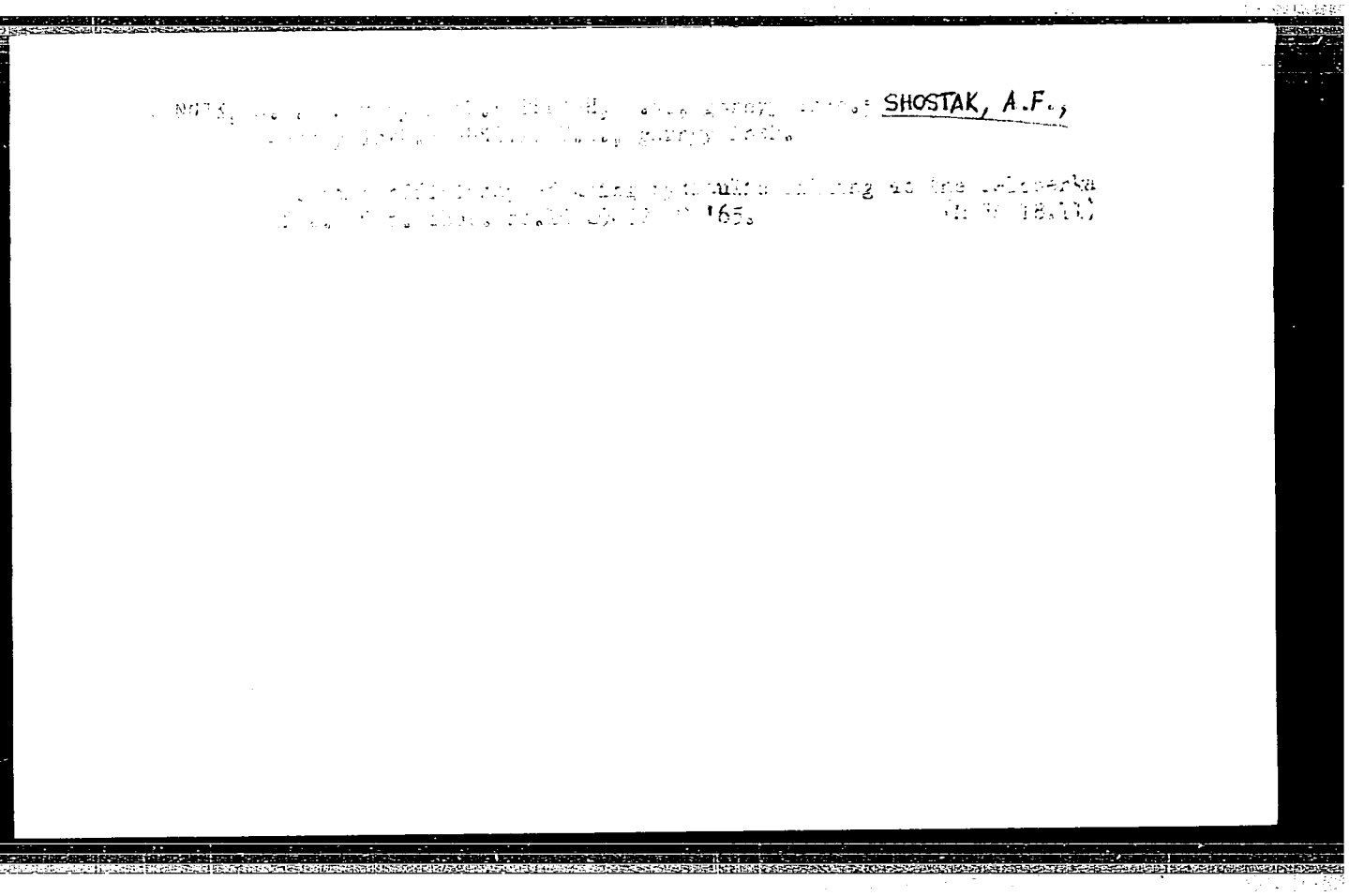
Card 2/2

OL'SHANSKIY; LYSENKO; NAZARENKO; AVAKYAN; VARUNTSYAN; GLUSHCHENKO; PREZENT; VARENITSA; BALYURA; OZIRSKIY; TOMASHEVICH; SHAIN; TARKOVSKIY; TRET'YAKOV; NOVIKOV; FEYGINSON; TELYATNIKOV; KHALIFMAN; KONSTANTINOVA; SMIRNOV; VOINOV; STEPANOV SHOSTAK; BALABAN; CHUBASOVA; TKUCHUK

Timofei Ignat'evich Belash. Agrobiologiia no. 3:447-448 My-Je '61.
(MIRA 14:5)
(Belash, Timofei Ignat'evich, 1901-1961)

FILIPPENKO, Ivan Trofimovich; NESTEROV, Petr Grigor'yevich; SHOSTAK, A., kand. tekhn. nauk, retsenzent; AFONINA, G.P., red.

[Basic problems of the economics of iron-ore mining and treatment in the Krivoy Rog Basin] Osnovnye voprosy ekonomiki dobychi i pererabotki zheleznykh rud Krivbassa. Kiev, Tekhnika, 1965. 206 p. (MIRA 19:1)



NEDIN, V. V.; BLOSTAK, A. G.

Mining Engineering

Further growth of ore mining in the Krivoi Rog basin. Gor. zhur. no. 2, 1952.

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

POLISHCHUK, A.D.; SHOSTAK, A.G.

[Graduated caving at mines of the Krivoy Rog Iron Ore Basin] Etazhnoe samoobrushenie na rudnikakh Krivorozhskogo zhelezo-rudnogo basseina. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1953. 191 p. (MLRA 7:3)
(Mining engineering) (Ukraine--Iron mines and mining)

SHOSTAK, A. G.

A. D. Polishchuk and A. G. Shostak, Sistema blokovogo obrusheniya na rudnikakh Krivbassa /The Block-Precipitation System in Mines of the Krivbass/, Metallurgizdat, 12 sheets.

The booklet describes the utilization of block-precipitation in the Krivoy Rog mines, describes the results of scientifuc investigations in establishing the optimun parameters for the system, the order, the methods of underfutting blocks, and precipitation in mines.

The booklet is intended for engineers and technicians -- production workers, designers, and for students of mining institutes and technical schools.

SO: U-6472, 12 Nov 1954

SHOSTAK, A.G.

USSR/ Mining - Book review

Card 1/1 Pub. 123 - 15/16

Authors : Baron, L. I., Cand. of Tech. Sc.

Title : Treatment of ore deposits

Periodical : Vest. AN Kaz. SSR 12, 93-95, Dec 1954

Abstract : Critical review is presented of the book, by A. D. Polishchuk and A. G. Shostak entitled, "Self-Destruction of Mine Pits in the Krivoyrog Iron Ore Basin," published in 1953.

Institution : .....

Submitted : .....

SHOSTAK, Afanasiy Grigor'yevich; STARIKOV, Nikolay Ivanovich; SOSEDOV, O.O. redaktor; MIKAHYLOVA, V.V., tekhnicheskiy redaktor.

[New equipment and progressive work organization in mines of the Krivoy Rog basin] Novaia tekhnika i peredovaia organizatsiia truda na shakhtakh Krivorozhskogo basseina. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955. 165 p.
(Krivoy Rog--Mining engineering) (MLRA 8:9)

NEDIN, V.V., professor, doktor tekhnicheskikh nauk; SHOSTAK, A.G., gornyy inzhener; NIKULIN, S.S., kandidat tekhnicheskikh nauk

Progressive practices of the Krivoy Rog miners. Gor.zhur. no.7:3-6 Jl '55. (MLRA 8:8)
(Krivoy Rog--Iron mines and mining)

ZHURAVLEV, S.P.; TARAN, N.N.; MALAKHOV, G.M.; MEDIN, V.V.; KUDRYASHOV, K.V.; ZHUKOV, M.N.; KADYRBAYEV, R.A.; SHOSTAK, A.G.; RIMSKIY, V.S.; KOSTYUK, A.M.; ARSENT'YEV, A.I.; SHUTENKOV, T.S.; SERYAKOV, G.V.

"Mining ore deposits." M.I. Agoshkov. Reviewed by S.P. Zhuravlev and others. Gor.zhur. no.7:63-64 Jl '55. (MLRA 8:8)
(Mines and mineral resources) (Agoshkov, M.I.)

KANDYBA, M.I.; MIKHAYLOV, Yu.I.; SHOSTAK, A.G.

An analysis of ore haulage in the mines of the Krivoy Rog basin.
Gor.zhur. no.8:10-15 Ag '55. (MLRA 8:8)
(Krivoy Rog--Mine haulage)

Shostak, A.G.

STESHENKO,A.I.; ZHURAVLEV,S.P.; TARAN,P.N.; KUDRYASHOV,K.V.; ZHUKOV,M.N.; BELYY,P.L.; KADYRVAYEV,R.A.; PASTUSHKIN,P.M.; SHOSTAK,A.G.; OSTROUKHOV,A.I.; POLOWSKIY,M.I.; OSTROUKHOV,I.I.; LUGOVSKIY,S.I.; SEMENKO,P.I.; KHOROSHEV,O.V.; IBRAYEV,Sh.I.; NEYKOV,O.D.

"Dust control in the mines of Krivoy Rog Basin." V.V.Nedin. Reviewed by A.I.Steshenko and others. Gor.zhur. no.9:61-62 S '55. (MLRA 8:8)

(Krivoy Rog--Mine dusts) (Nedin,V.V.)

BOCHKOVSKAYA, I.V.; SATANOVSKIY, L.A.; SHOSTAK, A.G., redaktor; SINYAVSKAYA, Ye.K., redaktor; ANDREYEV, S.P., tekhnicheskiy redaktor.

[Using mining conveyers in the Krivoy Rog Basin] Opyt primeneniia prokhodcheskikh transporterov v Krivorozhskom Basseine. Khar'kov, Ges.nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 34 p. (Krivoy Rog--Mining machinery) (MLRA 9:6)

SHOSTAK, Afanasiy Grigor'yevich; AL'BRUT, Berta Isaakovna, SUKOCHEVA, Yelizaveta Mikhaylovna; SOSEDOV, O.O., redaktor; PARTSEVSKIY, V.N., redaktor izdatel'stva; PETROVA, N.S., tekhnicheskiy redaktor

[Progressive methods of work in the Krivoy Rog Basin mines] Peredovye metody truda na rudnikakh Krivorozhskogo basseina. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 88 p. (MLRA 9:12)

(Krivoy Rog--Mining engineering)

RIVKIN, Isaak Davydovich; ZAPOL'SKIY, Vyacheslav Petrovich; BOGDANOV, Petr Andreyevich; SHOSTAK, A.G., redaktor; PARTSEVSKIY, B.N., redaktor izdatel'stva; PETROVA, N.S., tekhnicheskiy redaktor

[Sound measuring method of observing manifestations of mine pressure in the workings of the Krivoy Rog Basin] Zvukometricheskii metod nabliudeniia proiavlenii gornogo davleniia na shakhtakh Krivorozhskogo basseina. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii. 1956. 188 p. (MIRA 9:8)

(Krivoy Rog--Subsidences (Earth movements))
(Mining engineering)

MALAKHOV, Georgiy Mikhaylovich; SHOSTAK, Afanasiy Grigor'evvich; STARIKOV, Nikolay Ivanovich; AFONINA, G., vedushchiy redaktor; NOVIK, A., tekhnicheskiy redaktor

[History of mining in Krivoy Rog Basin] Istoriia gornogo dela v Krivorozhskom basseine. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1956. 341 p. (MLRA 10:2)
(Krivoy Rog--Iron mines and mining)

SHOSTAK, MATVEY GRIGOR'YEVICH

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.S51

Novyye Metody Prokhodki Stvolov Shakht I Vosstayushchikh (New Methods of Sinking Shafts, by) K. G. Shostak I M. I. POLONSKIY. Dnepropetrovsk, Dnepropetrovskoye Oblastnoye Izd-vo, 1957.
59 P. Illus., Diagrs., Tables (Bibliotechka Peredovogo Opyta)

PHASE I BOOK EXPLOITATION 520

Malakhov, Georgiy Mikhaylovich; Starikov, Nikolay Ivanovich; Shostak, Afanasiy Grigor'yevich

Osnovnaya zhelezorudnaya baza SSSR; ocherk razvitiya Krivorozhskogo basseyna (The Main USSR Iron-ore Deposits; Outline of the Development of the Krivoy Rog Basin) [Moscow] Meallurgizdat, 1957. 161 p. 3,000 copies printed.

Ed.: Shaforenko, I.P.; Ed. of Publishing House: Partsevskiy, V.N.; Tech. Ed.: Karasev, A.I.

PURPOSE: This book is addressed to all readers interested in the development of the Soviet iron-ore industry.

COVERAGE: The book deals with the development of the Krivoy Rog Iron-ore Basin, especially under the Soviet regime. A geological sketch of the region is given. Mining methods before and after the Revolution are discussed. Progressive development of the region

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during each five-year-plan period is described. The authors express their thanks to I.I. Osetrov, Docent, who wrote Chapter I, "Brief Geological Description of the Krivoy Rog Basin"; to V.I. Karmazin, Docent, who supplied information on the concentration of Krivoy Rog ores; and to Pyatakov [no initials given], manager of the industrial department of the Ukrainina newspaper Chervonyy hirnyk (Red Miner), who provided information on living conditions, educational facilities, etc., among the miners of the Krivoy Rog Basin. No personalities are mentioned. There are 98 references, all Soviet (including 7 in Ukrainian).

TABLE OF CONTENTS:

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Ch. I. Brief Geological Description of the Krivoy Rog Iron-ore Basin

Ores and ore deposits 13

PERESHEIN, Ye.V., inzhener; SUKOCHEVA, Ye.M., inzhener; SHOSTAK, A.G., inzhener.

At the Krivoy Rog mines. Bezop. truda v prom. 1 no.2:12-15 F '57.
(Krivoy Rog--Iron mines and mining--Safety measures) (MLRA 10:4)

SHOSTAK, A.G.; OSTROUKHOV, A.I.

Results of progressive mine operations in the Krivoy Rog Basin.
Gor. zhur. no.3:29-33 Mr '57. (MLRA 10:4)

1. Nachal'nik tekhnicheskogo otdela tresta Dzerzhinskruda (for Shostak).
2. Nachal'nik tekhnicheskogo otdela tresta Leninruda (for Ostroukhov).
(Krivoy Rog--Iron mines and mining)

GORDON, B.Ye., kandidat tekhnicheskikh nauk; ZHUKOV, M.N., gornyy inzhener; SINARENKO, I.A., gornyy inzhener; SHOSTAK, A.G., gornyy inzhener.

Present state and prospects for the development of Krivoy Rog Basin. Gor. zhur. no.7:3-6 Jl '57. (MLRA 10:8)
(Krivoy Rog--Iron mines and mining)

BARON, Lazar' Izrailevich, prof., doktor tekhn.nauk; SIMONYAN, Yevgeniy Arshakovich; BANKETOV, A.K., gorn.inzh., retsenzent; IVANOV, S.K., retsenzent; SHOSTAK, A.G., retsenzent; SMOLDYREV, A.Ye., red.; PARTSEVSKIY, V.N., red.izd-va; ISLENT'YEVA, P.G., tekhn.red.

[Chute loading in underground ore mining] Liukovaia pogruzka pri podzemnoi dobyche rud. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959. 206 p. (MIRA 12:6)

(Loading and unloading) (Ore handling)

18(3) PHASE I BOOK EXPLOITATION SOV/2167

Shostak, Afanasiy Grigor'yevich

Razrabotka zhelezorudnykh zalezhey v krivorozhskom basseyne (Developing Iron Ore Deposits in the Krivoy Rog Basin) Moscow, Metallurgizdat, 1959. 534 p. Errata slip inserted. 1,800 copies printed.

Reviewers: V. M. Kiselev, Mining Engineer, and F. A. Kapitsa; Ed.: M. A. Pokrovskiy; Ed. of Publishing House: V. N. Partsevskiy; Tech. Ed.: M. K. Attopovich.

PURPOSE: The book is intended for technical personnel engaged in the mining industry and can also be used as a textbook by mining students.

COVERAGE: This book treats the basic problems involved in the underground exploitation of iron ore deposits in the Krivoy Rog basin. The work is divided into four parts. Part I describes the structure of the basin, the drilling equipment presently being used in underground work, the main features of surface constructions, and the transportation facilities in the mine. Part II deals with problems directly related to the development of deposits, including a description of lining of haulage ways. Part III covers the various phases

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BONDARENKO, I.I., ZHUKOV, M.N.; ZINCHEVSKIY, N.P.; RED'KO, I.A. SEMENKO, P.I.; SVINARENKO, D.M.; KHIVRENKO, A.F.; SHKUTA, E.I.; SHOSTAK, A.G.

Review of "Ventilation of mines after large-scale blasting" by S.I.Lugovskoi. Reviewed by I.I.Bondarenko and others. Bezop.truda v prom. 3 no.8:38 Ag '59. (MIRA 12:11)

1. Glavnyy inzhener upravleniya Krivorozhskogo okruga Gosgortekhnadzora USSR (for Bondarenko). 2. Glavnyy inzhener instituta Krivbassproyekt (for Zhukov). 3. Glavnyy inzhener rudoupravleniya im. Karla Libknethta (for Zinchevskiy). 4. Nachal'nik otdela kapital'nogo stroitel'stva rudoupravleniya im. Dzerzhinskogo (for Ryng). 5. Nachal'nik ventilyatsii tresta Dzerzhinskruda (for Red'ko). 6. Upravlyayushchiy rudoupravleniyem im. Dzerzhinskogo (for Svinarenko). 7. Upravlyayushchiy upravleniyem im. Karla Libknekhta (for Semenko). 8. Glavnyy inzhener tresta Dzerzhinskruda (for Khivrenko). 9. Glavnyy inzhener rudoupravleniya im. Dzerzhinskogo (for Shkura). 10. Nachal'nik tekhnicheskogo otdela tresta Dzerzhinskruda (for Shostak).
(Bibliography--Industrial safety) (Lugovskoi, S.I.)

RIVKIN, I.D. (Krivoy Rog); SHOSTAK, A.G. (Krivoy Rog); KUYEVDA, K.I. (Krivoy Rog); PRILIPENKO, Ye.D. (Krivoy Rog)

New innovation in the method of sublevel caving. Gor.zhur. no.2: 22-26 F '61. (MIRA 14:4)

(Mining engineering)

KISELEV, V.M.; DZYUBENKO, M.G.; SHOSTAK, A.G.

New plan for group overburden and ore removal in the Krivoy Rog Basin. Gor. zhur. no.1:8-12 Ja '62. (MIRA 15:7)

1. Glavnyy inzhener instituta Krivbassproyekt (for Kiselev). 2. Glavnyy inzhener proyekta rekonstruktsii rudnika imeni Kirova Krivorozhskogo basseyna (for Dzyubenko). 3. Ukrainskiy sovet narodnogo khozyaystva (for Shostak).
(Krivoy Rog Basin--Iron mines and mining)
(Conveying machinery)

TOVSTANOVSKIY, Dmitriy Pavlovich; SHOSTAK, Afanasiy Grigor'yevich; NESTEROV, Petr Grigor'yevich; DUDKO, Viktor Dmitriyevich; AFONINA, G.P., red.izd-va; SHAFETA, S.M., tekhn. red.

[Technical and economic ore mining handbook] Tekhniko-ekonomicheskii gorno-rudnyi spravochnik. Kiev, Gostekhizdat USSR, 1963. 316 p. (MIRA 17:3)

ARSENT'YEV, Aleksandr Ivanovich; VINOGRADOV, Vladimir Samoylovich; DZYUBENKO, Mikhail Grigor'yevich; YESHCHENKO, Aleksey Andreyevich; KALYAKIN, Viktor Vasil'yevich; KARMAZIN, Vitaliy Ivanovich; KISELEV, Vyacheslav Mikhaylovich; KULIKOV Vladimir Vasil'yevich; MELESHKIN, Sergey Mikhaylovich; SINARENKO, Aleksandr Ivanovich; KHIVRENKO, Akim Foteyevich; SHKUTA, Eduard Ivanovich; SHOSTAK, Afonasiy Grigor'yevich; MOSKAL'KOV, Yevgeniy Fedorovich, retsenzent; SOSEDOV, Orest Orestovich, retsenzent; ROSSMIT, Aleksandr Filippovich, otv. red.; SUROVA, V.A., red.izd-va; LAVRENT'YEVA, L.G., tekhn. red.

[Overall development of an iron-ore basin] Kompleksnoe razvitie zhelezorudnogo basseina. [By] A.I.Arsent'yev i dr.Moskva, Izd-vo "Nedra," 1964. 293 p. (MIRA 17:3)

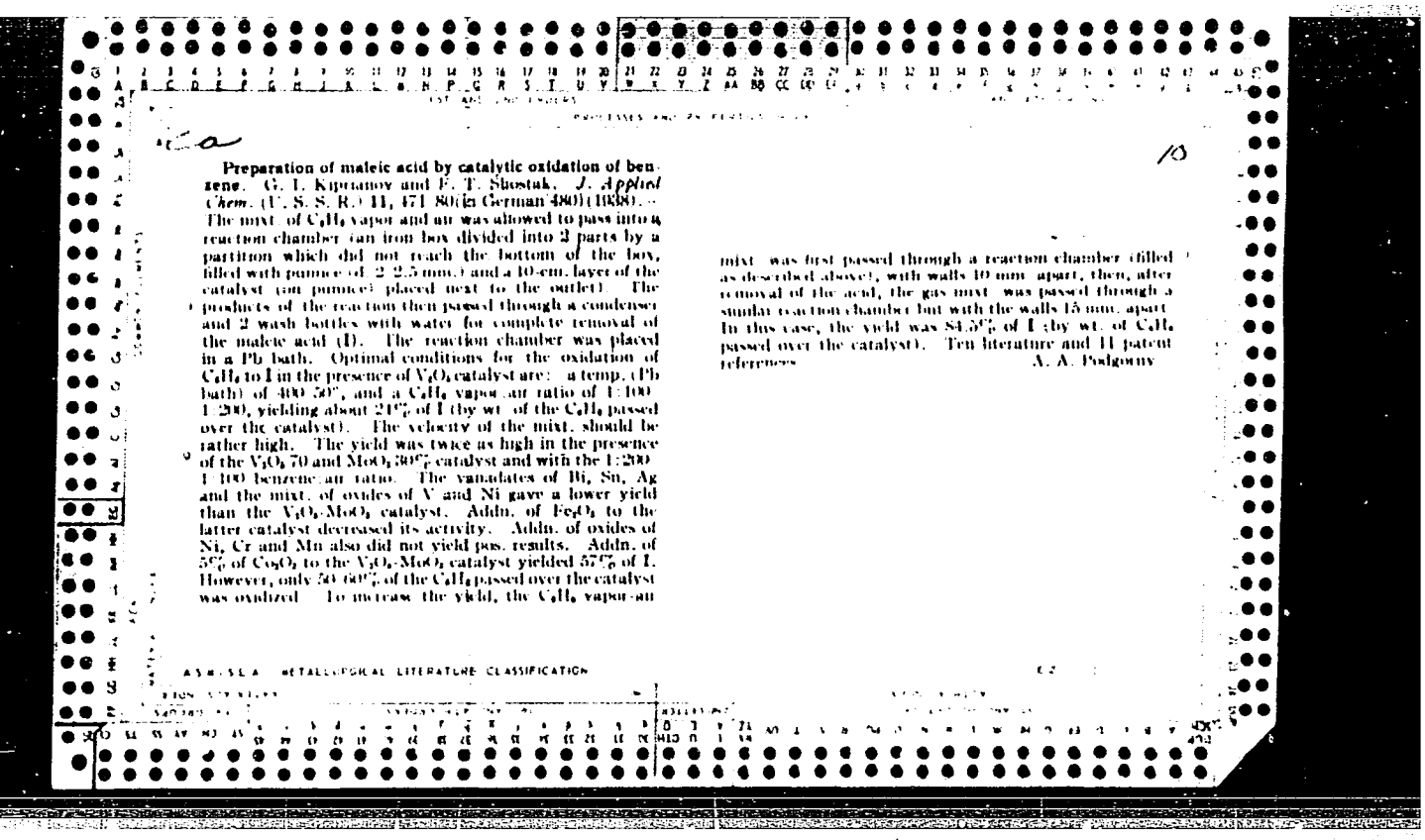
SHOSTAK, A.G.; BAKHTIN, B.T.; NEGROBOV, V.N.

Progressive systems of the underground mining of Krivoy Rog Basin ores. Metal gornorud. prom. no.6:82-85 N-D '63. (MIRA 18:1)

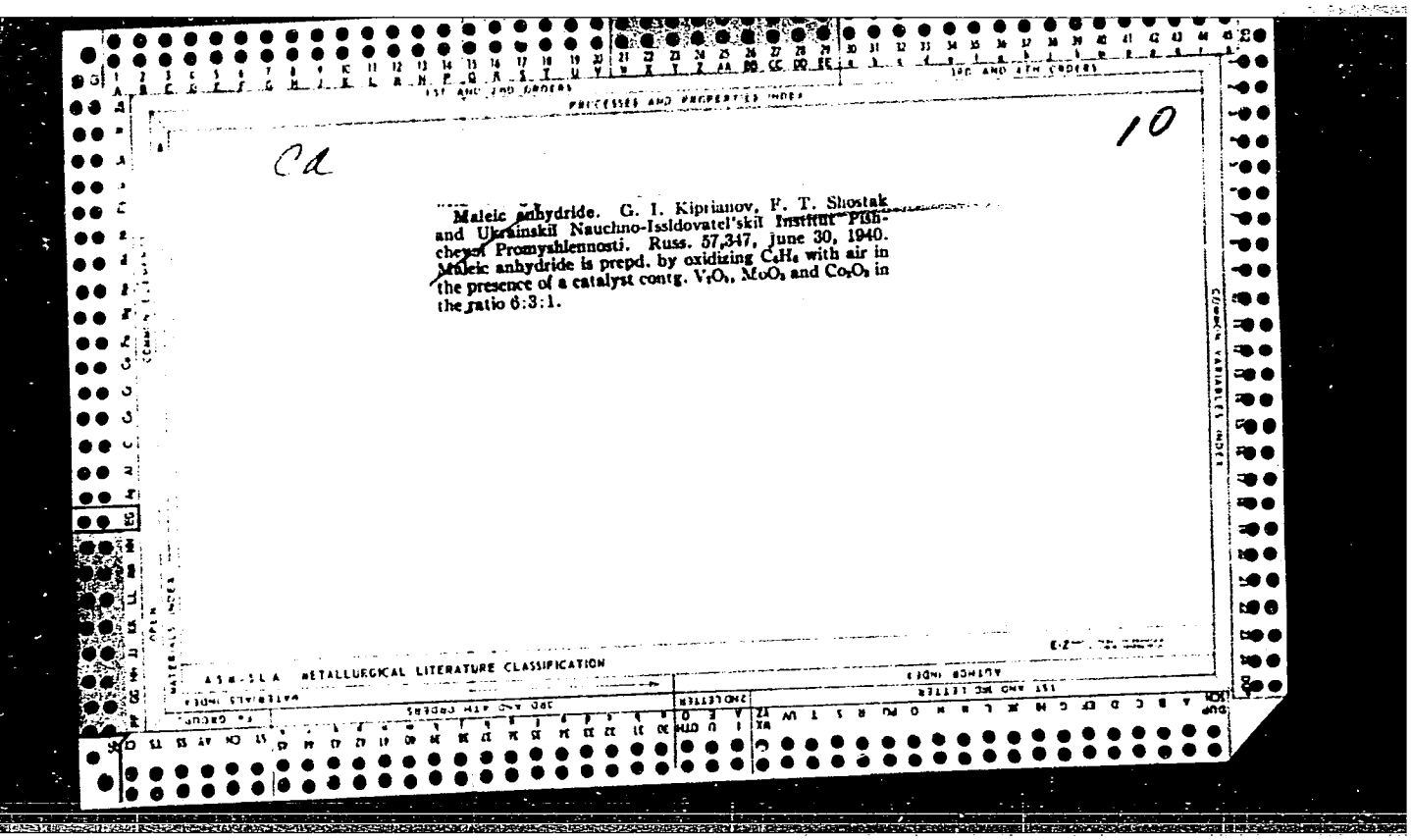
BRAGA, D.T., assistent; SHOSTAK, A.N., student

Pneumatic motion retarder of thread guide bars. Tekst.prom. 21 no.2:50-51 Ja '61. (MIRA: 14:3)

1. Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti.
(Knitting machines)



Preparation of maleic acid by catalytic oxidation of benzene. G. I. Kiprianov and F. T. Shostak. *J. Applied Chem.* (U. S. S. R.) 11, 471-80 (in German 480) (1938).—The mixt. of C_6H_6 vapor and air was allowed to pass into a reaction chamber (an iron box divided into 2 parts by a partition which did not reach the bottom of the box, filled with pumice of 2-2.5 mm.) and a 10-cm. layer of the catalyst (on pumice) placed next to the outlet). The products of the reaction then passed through a condenser and 2 wash bottles with water for complete removal of the maleic acid (I). The reaction chamber was placed in a Pb bath. Optimal conditions for the oxidation of C_6H_6 to I in the presence of V_2O_5 catalyst are: a temp. (Pb bath) of 400-50°, and a C_6H_6 vapor-air ratio of 1:100-1:200, yielding about 24% of I (by wt. of the C_6H_6 passed over the catalyst). The velocity of the mixt. should be rather high. The yield was twice as high in the presence of the V_2O_5 70 and MoO_3 30% catalyst and with the 1:200-1:100 benzene-air ratio. The vanadates of Bi, Sn, Ag and the mixt. of oxides of V and Ni gave a lower yield than the V_2O_5-MoO_3 catalyst. Addn. of Fe_2O_3 to the latter catalyst decreased its activity. Addn. of oxides of Ni, Cr and Mn also did not yield pos. results. Addn. of 5% of Co_3O_4 to the V_2O_5-MoO_3 catalyst yielded 57% of I. However, only 50-60% of the C_6H_6 passed over the catalyst was oxidized. To increase the yield, the C_6H_6 vapor-air mixt. was first passed through a reaction chamber (filled as described above), with walls 10 mm. apart, then, after removal of the acid, the gas mixt. was passed through a similar reaction chamber but with the walls 15 mm. apart. In this case, the yield was 84.5% of I (by wt. of C_6H_6 passed over the catalyst). Ten literature and 11 patent references. A. A. Podgorny



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Maleic anhydride. G. I. Kiprianov, F. T. Shostak and Ukrainskii Nauchno-Issldovatel'skii Institut Pish-cheyoi Promyshlennosti. Russ. 57,347, June 30, 1940. Maleic anhydride is prepd. by oxidizing C_6H_6 with air in the presence of a catalyst contg. V_2O_5, MoO_3 and Co_2O_3 in the ratio 6:3:1.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

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Oxidation of paraffin to fatty acids G. I. Kiprivanov and F. Shostak. *Pishchevaya Prom.* 1, No. 4, 17(1941). — The conditions of temp. and O_2 concn. for the oxidation of paraffin fractions from Soviet oil are described, and the economic considerations in this method of producing fatty acids are pointed out. S. Gottlieb

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHOSTAK, F.T.

Cation-exchange substances. M. V. Vittikh, I. V. Samborskii, F. T. Shostak, and A. B. Pashkov. U.S.S.R. 105,217, Mar. 25, 1957. A cation-exchange substance is obtained by sulfonation of polystyrene. The latter is dissolved, e.g. in dichloroethane, the soln. is heated in the presence of $AlCl_3$, and the process is finished in the usual way.
M. Hoesh

SHAROVA, A.K.; CHUFAROVA, I.G.; VITTIKH, M.V.; SHOSTAK, F.T.

Recovery of germanium from dilute solutions by an ion exchange method. Izv. Sib. otd. AN SSSR no.8:36-42 '59. (MIRA 13:2)

1.Ural'skiy filial AN SSSR.
(Germanium--Analysis) (Ion exchange)

SHOSTAK, F.T.; VITTIKH, M.V.; SHAROVA, A.K.; CHUFAROVA, I.G.

Separation of germanium by an ion exchange method. Izv.Sib.otd. AN SSSR no.8:69-74 '60. (MIRA 13:9)

1. Nizhne-Tagil'skoye otdeleniye Nauchno-issledovatel'skogo instituta plasticheskikh mass i Ural'skiy filial AN SSSR.
(Germanium) (Ion exchange)

CHERNOBROV, S.M., otv. red.; LASKORIN, B.N., red.; KLYACHKO, V.A., red.; MATEROVA, Ye.A., red.; LANGE, A.Z., red.; VITTIKH, M.V., red.; SHOSTAK, F.T., red.; SAVENKO, O.D., red.; ZYKOVA, V.V., red.; GLAZYRINA, D.M., red.; ALFEROVA, P.F., tekhn. red.

[Theory and practice of ion exchange] Teoriia i praktika ionnogo obmena; trudy. Alma-Ata, Izd-vo AN Kaz.SSR, 1963. 186 p. (MIRA 17:3)

1. Kazakhstanskoye respublikanskoye nauchno-tekhnicheskoye soveshchaniye po ionnomu obmenu. 1962. (MIRA 17:3)

SHOSTAK, F.T., kand.tekh.nauk; LYUBMAN, N.Ya.; IMANGAZIYEVA, G.K.

Synthesis of oxygen-containing hydrocarbon-formaldehyde resins and their use as bridging agents. Vest. AN Kazakh.SSR 19 no.10:27-32 O '63.
(MIRA 17:1)

ACCESSION NR: AT4042416 S/0000/63/000/000/0024/0028

AUTHOR: Shostak, F. T.; Yergozhin, Ye. Ye.

TITLE: Synthesis of macroporous oxidation-reduction resins

SOURCE: Respublikanskoye nauchno-tekhnicheskoye soveshchaniye po ionnomu obmenu. Alma-Ata, 1962. Teoriya i praktika ionnogo obmena (Theory and practice of ion exchange); trudy* soveshchaniya. Alma-Ata, Izd-vo AN KazSSR, 1963, 24-28

TOPIC TAGS: resin, macroporous resin, resin porosity, oxidation reduction resin, redox resin, resin additive, isoamyl alcohol, oleic acid

ABSTRACT: A modification of a previously described method for the synthesis of oxidation-reduction resins is proposed which yields products with improved water capacity and a higher more controllable porosity. The pores in the product are enlarged by introducing inactive ingredients which are soluble in the primary polymers and are subsequently washed out from the final product. Isoamyl alcohol, oleic acid, methylethyl ketone, $ZnCl_2$, $CaCl_2$, $6H_2O$ or $MnCl_2$ were found to be suitable for the purpose, while immiscible substances such as starch and glucose were not. Water capacity, swelling ability, oxidation-reduction capacity, sodium hydroxide absorption and the kinetics of the oxidation-reduction processes were determined in the products obtained. The effect of the amount of additive on the

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Card

ACCESSION NR: AT4042418 S/0000/63/000/000/0034/0038

AUTHOR: Lyubman, N. Ya.; Shostak, F. T.

TITLE: Anion exchange membranes of the Ankalit A type

SOURCE: Respublikanskoye nauchno-teknicheskoye soveshchaniye po ionnomu obmenu. Alma-Ata, 1962. Teoriya i praktike ionnogo obmena (Theory and practice of ion exchange); trudy* soveshchaniya. Alma-Ata, Izd-vo AN KazSSR, 1963, 34-38

TOPIC TAGS: ion exchange resin, ion exchange membrane, anion exchange membrane, Ankalit A, polyethylene film, polyethylene polyamine, epichlorohydrin copolymer, dichloroethane copolymer, polymer film mechanical property, polymer film electrical property

ABSTRACT: The authors report the synthesis of a new type of anion-exchange membrane, Ankalit A, with a linearly-spatial structure and electrochemical properties nearly identical to those of homogeneous membranes, but with higher mechanical properties. By its membrane structure, Ankalit A is a cross-bonded active polymer whose lattice contains interwoven linear macromolecules of an inert thermoplastic polymer. As material for the synthesis, the systems

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ACCESSION NR: AT4042418

polyethylene - polyethylenepolyamines - epichlorohydrin, and polyethylene - polyethylenepolyamines - dichloroethane were found to yield optimal results. In a typical process, the powered low-pressure polyethylene was mixed at room temperature with polyethylenepolyamines, dichloroethane was added, the mass was mixed and placed in an autoclave at 120C. The water-absorption, swelling capacity, electrical resistance and membrane potential of these membranes were investigated in relation to the ratio of ion-exchanging component and polyethylene. The mechanical properties of these membranes are adequate even when they are used without reinforcement. Orig. art. has: 4 figures, 1 table and 2 chemical equations.

ASSOCIATION: Institut khimicheskikh nauk AN KazSSR (Institute of Chemical Sciences, AN KazSSR)

SUBMITTED: 13Nov63 DATE SEL: 05Aug64 ENCL: 00

SUB CODE: OC NO REF SOV: 000 OTHER: 003

Card 2/2

ACCESSION NR: AT4042419 S/0000/63/000/000/0043/0045

AUTHOR: Shostak, F. T.; Vittikh, M. V.; Savel'yeva, G. A.; Kozlov, G. S. Malinovskiy, L. S.

TITLE: The influence of ultrasound on the kinetics of ion exchange

SOURCE: Respublikanskoye nauchno-tekhnicheskoye soveshchaniye po ionnomu obmenu. Alma-Ata, 1962. Teoriya i praktika ionnogo obmena (Theory and practice of ion exchange); trudy* soveshchaniya. Alma-Ata, Izd-vo AN KazSSR, 1963, 43-45.

TOPIC TAGS: ion exchange, ion exchange kinetics, ultrasound, cation exchange resin, anion exchange resin, resin regeneration

ABSTRACT: An UZGI-1.5 ultrasonic generator in an auto-exciting circuit with three GU-80 tubes fed without rectifying directly from a three-phase a.c. grid was used in a study of the effects of ultrasound on ion exchange in an acid cation exchange resin (KU-21) and two alkaline anion exchange resins (EDE-10P and AN-1). The H form of the cation exchange resin and the OH form of the anion exchange resins in 1.0 and 0.1 N aqueous solutions of KOH or 1.0, 0.1 and 0.01 N aqueous solutions of hydrochloric acid, respectively were exposed to ultrasound for 3, 7, 15, 25 and 45 minutes with an intensity of 3.0 w/cm^3 at room temperature. The tests generally showed that imposition of an ultrasonic field intensifies ion exchange in the initial stage, especially in the first 3-15 min. The effect of the field

Card

ACCESSION NR: AT4042420 S/0000/63/000/000/0046/0050

AUTHOR: Shostak, F. T.; Savenko, O. D.

TITLE: Synthesis of sulfocation exchange membranes by combining a polyethylene film and styrene. Part I

SOURCE: Respublikanskoye nauchno-tekhnicheskoye soveshchaniye po ionnomu obmenu. Alma-Ata, 1962. Teoriya i praktika ionnogo obmena (Theory and practice of ion exchange); trudy* soveshchaniya. Alma-Ata, Izd-vo AN KazSSR, 1963, 46-50

TOPIC TAGS: ion exchange resin, cation exchange membrane, sulfocation exchange resin, polyethylene film, styrene copolymer, divinylbenzene copolymer, sulfuration, polymer film mechanical property, polymer film electrical property

ABSTRACT: Styrene, divinylbenzene and high- or low-pressure polyethylene film (melt. point 110 and 138C and viscosity 0.7 and 1.3, respectively) were used as the raw materials in the synthesis of ion-exchange membranes by polymerization of a monomer inside a polymer of a different nature. The process consists of the permeation of the polyethylene film with styrene or a mixture of styrene with bonding agents, polymerization of the styrene inside the film, and sulfuration of the film, and requires that the polymers be in close contact. Studying the increase in styrene content with increasing temperature and duration of permeation,

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ACCESSION NR: AT4042420

in the presence of benzoyl peroxide, dimethylpercarbonate, and cyclohexylpercarbonate as the initiators, the authors prepared cation-exchange membranes with up to 50-60% styrene. These membranes showed a high exchange capacity, high selectivity and mechanical strength, and low electrical resistance. Orig. art. has: 2 tables and 3 figures.

ASSOCIATION: Institut khimicheskikh nauk AN KazSSR (Institute of Chemical Sciences, AN KazSSR)

SUBMITTED: 13Nov63 ENCL: 00

SUB CODE: OC , MT NO REF SOV: 004 OTHER: 020

Card 2/2

ACCESSION NR: AT4042421 S/0000/63/000/000/0051/0053

AUTHOR: Shostak, F. T.: Savenko, O. D.

TITLE: Synthesis of sulfocation exchange membranes based on a polyethylene film treated with hydrogen peroxide. Part II

SOURCE: Respublikanskoye nauchno-tekhnicheskoye soveshchaniye po ionnomu obmenu. Alma-Ata, 1962. Teoriya i praktika ionnogo obmena (Theory and practice of ion exchange); trudy* soveshchaniya. Alma-Ata, Izd-vo AN KazSSR, 1963, 51-53

TOPIC TAGS: resin, ion exchange resin, ion exchange membrane, sulfocation exchange membrane, polyethylene, hydrogen peroxide, styrene desorption, polyethylene film

ABSTRACT: Pretreatment of high-pressure polyethylene films having a molecular weight of 20,000-35,000 with 3% hydrogen peroxide at 20, 30 and 70C for 2, 4 and 6 hrs. was used to prevent the desorption of styrene from the film which occurs during the preparation of this type of membrane. In pretreated membranes, the amount of absorbed styrene was increased to 40% as compared to 34% in nontreated samples, the membrane potential climbed from 29.9 mv to 35 mv in 0.1-0.5 N solutions of sodium chloride, and the electrical resistance decreased from 20.4 to 7.0 ohm/cm^2 while the static exchange capacity with respect to Na^+ in 0.1 N sodium

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ACCESSION NR: AT4042421

hydroxide remained almost the same (2.8-2.9 meq /g).Membranes with the best electrochemical properties were obtained by treatment at 20C. Orig. art. has: 2 tables.

ASSOCIATION: Institut khimicheskikh nauk AN KazSSR (Institute of Chemical Sciences, AN KazSSR)

SUBMITTED: 13Nov63 ENCL: 00

SUB CODE: OC , MT NO REF SOV: 001 OTHER: 001

Card rd 2/2

ACCESSION NR: AT4042422 S/0000/63/000/000/0054/0058

AUTHOR: Lyubman, N. Ya.; Shostak, F. T.; Imagnaziyeva, G. K.

TITLE: Sulfuration of films made from styrene-ethylene combined polymers

SOURCE: Respublikanskoye nauchno-tekhnichoskoye soveshchaniye po ionnomu obmenu. Alma-Ata, 1962. Teoriya i praktika ionnogo obmena (Theory and practice of ion exchange); trudy* soveshchaniya. Alma-Ata, Izd-vo AN KazSSR, 1963, 54-58

TOPIC TAGS: ion exchange resin, cation exchange membrane, copolymer film, styrene ethylene copolymer, sulfuration, Ankalit resin, plasticizer, bonding agent decomposition, copolymer electrical property

ABSTRACT: The authors discuss the mechanism of synthesis of Ankalit K-1 cation exchange membranes from styrene-ethylene copolymers plasticized by the SAP bonding agent. The process is understood to be the result of the action of the formaldehyde liberated in the decomposition of the bonding agent by concentrated H_2SO_4, which causes the polystyrene macromolecules to form a polymer with spatial structure. The rate of formation of a bonded polystyrene depends on the rate of decomposition of the bonding agent, which is in turn a func-

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ACCESSION NR: AT4042422

tion of the rate of diffusion of the H_2SO_4 into the film. The kinetics of formation of a bonded polystyrene, as well as the dependence of the static exchange capacity and specific electrical conductivity of copolymer membranes on the duration and temperature of sulfuration, are diagrammed (see the Enclosure). The electrical conductivity was found to decrease with decreasing sulfuration temperature. Orig. art. has: 6 figures, 6 formulas and 2 chemical equations.

ASSOCIATION: Institut khimicheskikh nauk AN KazSSR (Institute of Chemical Sciences, AN KazSSR)

SUBMITTED: 13Nov63 ENCL: 01

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

Card 2/3

ACCESSION NR: AT4042422

ENCLOSURE: 01

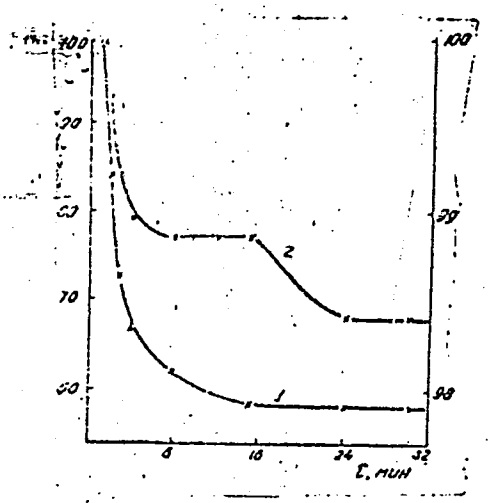

Fig. 1. Dependence of the electrical resistivity (1) and selectivity (2) on duration of sulfuration at 70C. Left ordinate = electrical resistivity in ohm·cm; right ordinate = selectivity in %; abscissa = time in mins.

Card 3/3

ACCESSION NR: AT4042423 S/0000/63/000/000/0059/0067

AUTHOR: Lyubman, N. Ya.; Shostak, F. T.

TITLE: Synthesis of ion exchange membranes of the Ankalit K-1 type

SOURCE: Respublikanskoye nauchno-tekhnicheskoye soveshchaniye po ionnomu obmenu. Alma-Ata, 1962. Teoriya i praktika ionnogo obmena (Theory and practice of ion exchange); trudy* soveshchaniya. Alma-Ata, Izd-vo AN KazSSR, 1963, 59-67

TOPIC TAGS: ion exchange resin, ion exchange membrane, Ankalit resin, polyethylene, polystyrene, copolymer film, bonding agent, polystyrene copolymer, polymer swelling, copolymer film electrical property, membrane potential

ABSTRACT: In order to find a simple and effective procedure for the synthesis of ion exchange membranes, the authors undertook to combine polyethylene with polystyrene and prepare membranes by the subsequent introduction of ionogenic groups. Special plasticizing agents (unidentified in this work) were prepared which considerably decreased the melting point of both polymers, as well as acting as a bonding agent and causing the polymers to swell. These

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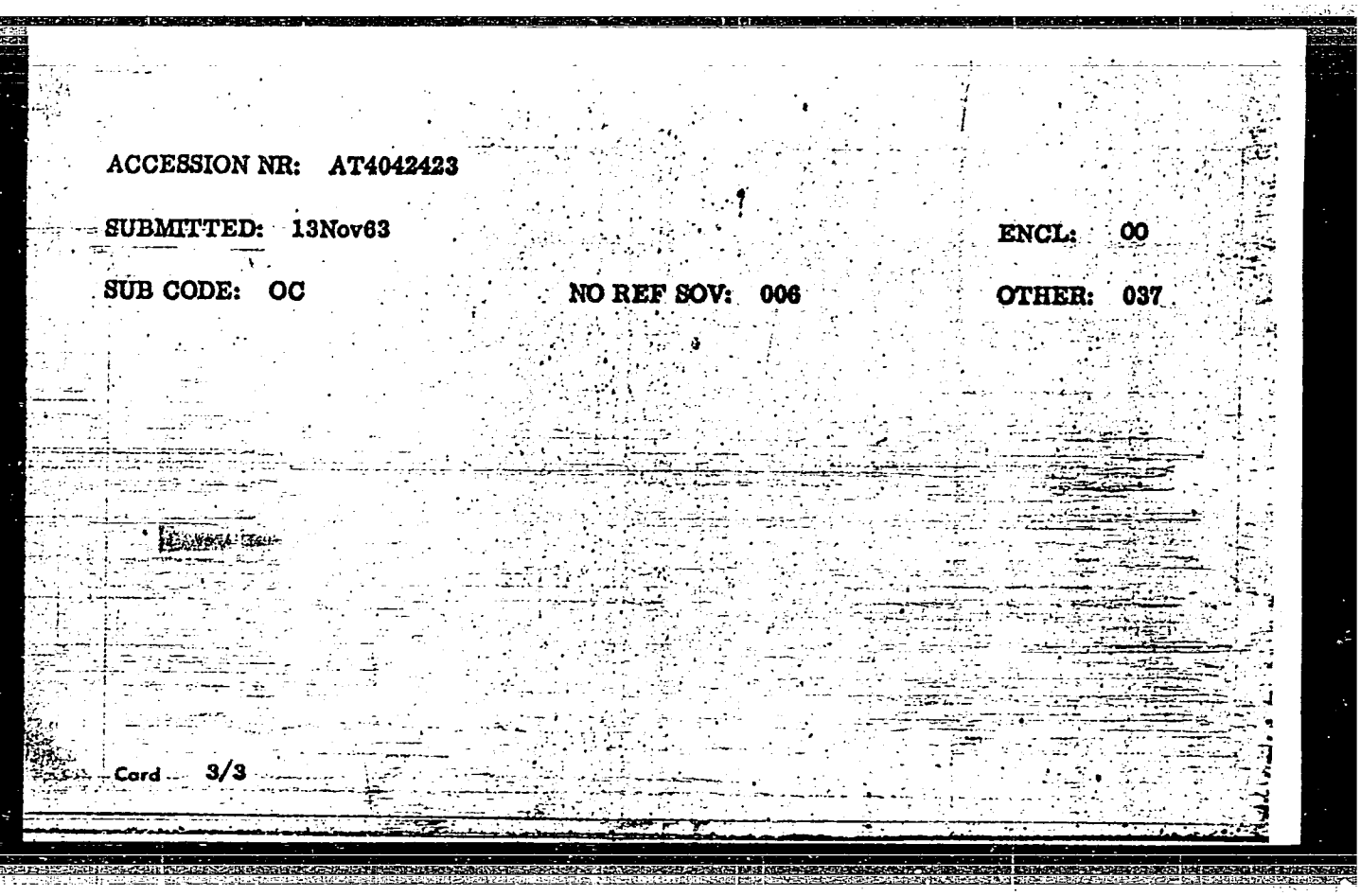
ACCESSION NR: AT4042423

plasticizing agents permitted union of the polymers by brief hot rolling and formulation of films by hot pressing at 110-140C. Ion exchange membranes with a specific resistivity of 50-90 ohms, a selectivity of up to 99%, and an ionogenic group concentration equivalent to that in a 4.5-5.0 μ solution of a strong electrolyte were then prepared. The influence of the relative amounts of bonding agent and polystyrene and the proportions of the polyethylene and polystyrene on the properties of the membranes, the kinetics of membrane swelling, the membrane potential and the electrical conductivity were also investigated. The swelling, moisture capacity and electrical conductivity generally decreased with increasing amounts of bonding agent, while the membrane potential increased sharply. The electrical resistivity was found to drop sharply with an increase in sodium polystyrene sulfonate in the membrane, reaching a minimum of 40-50 ohm • cm at a polystyrene content of 70% or more, while the membrane potential increased to a maximum at 60% polystyrene sulfonate and then decreased. Orig. art. has: 10 figures.

ASSOCIATION: Institut khimicheskikh nauk AN KazSSR (Institute of Chemical Sciences, AN KazSSR)



ACCESSION NR: AT4042423

SUBMITTED: 13Nov63 ENCL: 00

SUB CODE: OC NO REF SOV: 006 OTHER: 037

Card 3/3

LYUBMAN, N.Ya.; SHOSTAK, F.T.; IMANGAZIYEVA, G.K.

Membranes with a base of styrene-formaldehyde resins. Report No.1: Synthesis of styrene-formaldehyde resins. Izv. AN Kazakh. SSR. Ser. tekh. i khim.nauk no.3:9-14 '64. (MIRA 17:2)

LYUBMAN, N.Ya.; SHOSTAK, F.T.

Synthesis of ion-exchange membranes. Trudy Inst. khim. nauk AN Kazakh. SSR 11:56-88 '64. (MIRA 17:11)

L 23080-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/RM

ACCESSION NR: AP4049826 S/0360/64/000/003/0082/0086

AUTHOR: Imangaziyeva, G.K.; Gabdrakipov, V.Z.; Lyubman, N.Ya.; Shostak, F. T.; Dzhamaletdinova, M.K.

TITLE: Structure and composition of styrene and formaldehyde interaction products prepared under various conditions

SOURCE: AN KazSSR. Izvestiya. Seriya khimicheskikh nauk, no. 3, 1964, 82-86

TOPIC TAGS: styrene formaldehyde resin, styrene copolymer, formaldehyde copolymer, polymer structure, infrared spectroscopy

ABSTRACT: When treated with sulfuric acid, styrene-formaldehyde resins from cross-linked tridimensional polyelectrolytes with fixed sulfo-groups attached to the aromatic nucleus. The present authors undertook a study (by infrared spectroscopy) of the structure and composition of these resins depending on the concentration of sulfuric acid and the reaction time. The experimental method is described in detail and the results (resin yield: styrene used; C, H and O content; mol. weight; d_{20}^{20}, n_D^{20}) are tabulated in relation to the formaldehyde/styrene molar ratio (0.5:1 - 3:1), H_2SO_4 concentration (10 to 55% in the water phase) and reaction time (1-48 hrs). It was found that the direction of the reaction is determined by the H_2SO_4 concentration in the reaction mass: up to 40% H_2SO_4, the

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ACCESSION NR: AP4049826

predominant product is phenyl-1, 3-dioxane; at 40-50% H_2SO_4 - the products are chiefly styrene-formaldehyde resins with linear acetal chains incorporated in them. Orig. art. has: 1 figure, 5 chemical formulas and 1 table.

ASSOCIATION: None

SUBMITTED: 06Mar64 ENCL: 00 SUB CODE: OC, MT

NO REF SOV: 004 OTHER: 001

Card 2/2

L 21340-65 EWT(m)/EWP(j)/T Pc-4 RWH/RM

ACCESSION NR: AT5001009 S/2850/64/011/000/0095/0097

AUTHOR: Lyubman, N.Ya., Shostak, F.T., Imangaziyeva, G.K., Vaganov, V.D., Bakharev, Yu. I.

TITLE: Some electrochemical and physicomechanical properties of the Ankalit K-1 membranes

SOURCE: AN KazSSR. Institut khimicheskikh nauk. Trudy, v. 11, 1964. Sintez i issledovaniye vysokomolekulyarnykh soyedineniy (Synthesis and research of high-molecular compounds), 95-97

TOPIC TAGS: ion exchange membrane, membrane mechanical property, membrane electrochemical property, polyelectrolyte composition, polystyrene membrane, polyethylene membrane, sulfonated polymer, ultrafiltration membrane

ABSTRACT: Chemical composition was found to have a significant effect on the electrical and mechanical properties of "Ankalit K-1" membranes, i.e., 3-dimensional polyelectrolytes containing linear, inert, and thermoplastic macromolecules, and prepared from 36-52 wt% polystyrene, 10-40 wt% of a special, unspecified, crosslinking agent, and polyethylene. Crosslinking and chemical treatment converts polystyrene into a crosslinked polymer with

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ACCESSION NR: AT5001009

bonded ionogenic groups; thus, sulfonation yields highly acidic monofunctional membranes. The electrical resistance decreases with increasing polystyrene concentration and increases with the amount of crosslinking agent used. The potential and selectivity of the membrane increase with the degree of crosslinking of the polyelectrolyte present; the mechanical strength similarly increases while the permeability to water decreases. Selectivity goes through a maximum with increasing amounts of polyelectrolyte and this maximum shifts to a higher concentration of polyelectrolyte in highly crosslinked membranes. The latter are recommended for electrodialysis, but a lower degree of crosslinking is needed for membranes used in ultrafiltration. Orig. art. has: 4 figures.

ASSOCIATION: Institut khimicheskikh nauk, Akademiya nauk Kazakhoskoy SSR, (Institute of Chemical Sciences, Academy of Sciences of the Kazakh SSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 004 OTHER: 000

Card 2/2

L 19795-65 EWT(m) Pc-4 RM

ACCESSION NR: AT5001010 S/2850/64/011/000/0098/0103

AUTHOR: Savenko, O. D.; Shostak, F. T.; Arestova, E. I.

TITLE: Properties of Ankalit K-5 sulfocationic exchange membranes. Part 3

SOURCE: AN KazSSR. Institut khimicheskikh nauk. Trudy, v. 11, 1964. Sintez i issledovaniye vysokomolekulyarnykh soyedineniy (Synthesis and research of high-molecular compounds), 98-103

TOPIC TAGS: ion exchange membrane, sulfonated polymer, membrane mechanical property, membrane electrochemical property, polyvinyl chloride film, water demineralization

ABSTRACT: Cation exchange membranes with good electrochemical and mechanical properties and high selectivity are produced by impregnating polyvinyl chloride film with a mixture of styrene, divinylbenzene, and benzoyl peroxide, and by polymerization in the presence of oxygen and subsequent sulfonation. Formation of a tightly interlaced structure and the grafting of polystyrene is facilitated by a proposed reaction mechanism, involving terminal vinyl chloride groups and double bonds formed by the splitting off of hydrochloric acid from branched groups in the polyvinyl chloride matrix. The electrical resistivity of the membranes in 0.5 N NaCl was 34-70 ohm/cm; selectivity, determined as membrane potential in

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L 19795-65
ACCESSION NR: AT5001010

0.1-0.5 N NaCl, was 0.96-0.97; static exchange capacity, measured by a newly developed conductometric titration method, was 1.5-2.5 meq/g for sodium ions in 0.5 N NaOH solution; bending strength was 100 folds at 180C; water permeability was very low; and the swelling factor was 1.12. The low elasticity of the membranes may be improved by plasticizers. Ankalit K-5 membranes, which are designed for electrodialytic water demineralization, are shown to have better properties than the Mk-100 commercial Soviet membranes. Orig. art. has: 1 table and 7 chemical formulas.

ASSOCIATION: Institut khimicheskikh nauk, Akademiya nauk Kazakhskoy SSR (Institute of Chemical Sciences, Academy of Sciences of the Kazakh SSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: OC, MT

NO REF SOV: 005 OTHER: 013

Card 2/2

L 21341-65 EWT(m)/EWP(j)/T Pc-4 BSD/SSD/AFWL/APGC(b)/ESD(gs)/ESD(t)
RWH/RM
ACCESSION NR: AT5001011 S/2850/64/011/000/0104/0107

AUTHOR: Lyubman, N.Ya., Agashkin, O.V., Kushnikov, Yu.A., Kartseva, I.I., Shostak, F.T., Imangaziyeva, G.K.

TITLE: Membranes based on styrene-formadehyde resins. Part 2. A study of the structure of styrene-formaldehyde resins by infrared spectroscopy

SOURCE: AN KazSSR. Institut khimicheskikh nauk. Trudy, v. 11, 1964. Sintez i issledovaniye vysokomolekulyarnykh soyedineniy (Synthesis and research of high-molecular compounds), 104-107

TOPIC TAGS: styrene formaldehyde resin, polystyrene membrane, infrared spectroscopy, polymer composition, styrene polymerization

ABSTRACT: Styrene-formaldehyde resins were prepared by a method described in the first part of the paper (Izv. AN KazSSR, Seriya Khim. i Tekhn. Nauk (1963), #3), involving condensation in the presence of 45% sulfuric acid and when 0.5:1 to 3:1 molar ratios of formaldehyde to styrene; they were analyzed by infrared spectroscopy of the membranes or their solutions in carbon tetrachloride. The spectra shown in Fig. 1 of the Enclosure proved the absence of vinyl groups; thus, the reaction proceeds with the participation and

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ACCESSION NR: AT5001011

elimination of double bonds in the styrene chain. Oxygen is bonded into ether and acetal groups, and the length of the acetal chain increases with the feed concentration of formaldehyde. Aromatic rings do not form a part of the linear chain, whose terminals are formed by hydroxyl and methyl groups. Ketone groups are present, but the low intensity of the corresponding bands indicates a low concentration. Selected structures for the chain of styrene formaldehyde resins are proposed. Elemental composition, molecular weight, specific gravity, and refractive index of the studied specimens were determined and tabulated. Orig. art. has: 2 tables, 1 figure, and 4 formulas.

ASSOCIATION: Institut khimicheskikh nauk, Akademiya nauk Kazakhskoy SSR (Institute of Chemical Sciences, Academy of Sciences of the Kazakh SSR)

SUBMITTED: 00 ENCL: 01 SUB CODE: MM

NO REF SOV: 002 OTHER: 000

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