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ACC NR: AP6019606

was by far the most intense) was 11.7 ± 1.2 nanosec. In the 10 nanosec delayed spectrum of Re^{188} there were detected four lines ranging in energy from 62 to 205 keV. The 205 keV line did not appear in the 20 nanosec delayed spectrum, and its half-life was found to be 4.6 ± 0.3 nanosec. The measured half-life of the longer lived group of Re^{188} states was 7.7 ± 0.6 nanosec. The nature of the observed states is discussed and a level diagram for Re^{188} is presented. The authors thank D.M. Kaminker for valuable advice and fruitful discussions. Orig. art. has: 1 formula, 4 figures and 2 tables.

SUB CODE: 20 SUBM DATE: 00 ORIG. REF: 009 OTH REF: 007

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 41500-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6019606 (A,N) SOURCE CODE: UR/0048/66/030/002/0209/0213

AUTHOR: Berestovoy, A.M.; Kondurov, I.A.; Loginov, Yu.Ye.

ORG: none

TITLE: Delayed gamma transitions in Re-186 and Re-188 induced in neutron capture reactions /Report, Fifteenth Annual Conference on Nuclear Spectroscopy and Nuclear Structure, held at Minsk, 25 Jan. to 2 Feb. 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 2, 1966, 209-213

TOPIC TAGS: nuclear spectroscopy, nuclear structure, rhenium, gamma spectrum, gamma transition, half life

ABSTRACT: Delayed gamma transitions have been investigated and lifetimes of excited states have been measured in Re^{186} and Re^{188}. Small (50 mg) samples of metallic rhenium enriched in Re^{185} or Re^{187} were irradiated in the collimated thermal neutron beam from the water-moderated reactor of the Physicotechnical Institute of the USSR Academy of Sciences. The gamma rays from the irradiated samples were detected with two NaI: Tl scintillators connected into a fast-slow coincidence circuit. Half-lives were measured with the aid of a time-to-pulse height converter. Five lines roughly in energy from 63 to 255 keV were detected in the 12 nanosec delayed γ ray spectrum of Re^{186}. The half-life measured for this group of lines (of which the 63 keV line

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L 41318-66

ACC NR: AP6019633

irradiated with thermal neutrons filtered through 10 cm of lead in the care of the reactor and further moderated with 25 cm of quartz. Energy calibration was effected with the aid of monochromatic γ rays from Te^{123m} and Cs^{137}, and with γ rays from Hf^{181}. The spectra were recorded with a 256-channel pulse height analyzer. The eight spectra are presented graphically, compared with the findings of other investigators and discussed. The present findings were mostly in agreement with those of other authors. In many cases improved energy evaluations were obtained, owing to the high energy resolution of the semiconductor detector as compared with the scintillators frequently employed for soft γ-ray measurements. Two new lines (at 159 and 257 keV) were found in the Co^{60} spectrum, and a number of new lines were found in the Cs^{134} spectrum. The As^{76} spectrum was not in agreement with the findings of V. Cojocaru, D.Dorcioman, D.Dragomirescu and M.Cristu (Rev. Phys. Buoresti, 5, 211 (1960)). The authors thank D.M.Kaminker for support and valuable discussions, and L.V.Maslova, O.A.Matveyev, and N.B.Strokan for preparing the semiconductor counter. Orig. art. has: 7 figures and 2 tables.

SUB CODE: 20 SUBM DATE: 00 ORIG. REF: 009 OTH REF: 006

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 4318-66 EWT(m)/EWP(t)/ETI IJP(c) JD/HW/JG

ACC NR: AP6019633 (A,N) SOURCE CODE: UR/0048/66/030/002/0359/0366

10
91
B

AUTHOR: Berestovoy, A.M.; Kondurov, I.A.; Loginov, Yu.Ye.

ORG: none

TITLE: Investigation with the aid of a Ge(Li) semiconductor detector of the soft gamma radiation of the odd-odd nuclei Sc-46, Mn-56, Co-60, As-76, Ag-108, Ag-110, In-116, and Cs-134 produced in neutron capture reactions /Report, Fifteenth Annual Conference on Nuclear Spectroscopy and Nuclear Structure, held at Minsk, 25 January to 2 February 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 2, 1966, 359-366

TOPIC TAGS: gamma spectrum, gamma detector, semiconductor device, soft gamma rays, scandium, manganese, cobalt, arsenic, silver, indium, cesium

ABSTRACT: The authors have recorded the low energy (50 to 700 keV) γ-ray spectra of Sc^{46}, Mn^{56}, Co^{60}, As^{76}, Ag^{108}, Ag^{110}, In^{116}, and Cs^{134} produced in (n,γ) reactions on Sc^{45}, Mn^{55}, etc., by means of a 15 mm diameter 1 mm thick lithium drifted germanium detector of the type described elsewhere by O.A.Matveyev (Atomnaya energiya, 16, 362 (1964)). The detector was mounted near the bottom of a Dewar flask containing liquid nitrogen and shielded on the sides with a large block of lead. The detector was shielded from the target (mounted below the Dewar with 5 mm of lead. The target was

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BERESTOVOY, A.M.; KONDUROV, I.A.; LOGINOV, Yu.Ye.

Cascade transitions in the $Sc^{45}(n,\gamma)Sc^{46}$ reaction. Izv. AN SSSR. Ser. fiz. 28 no.10:1695-1700 O '64.

Delayed transitions in Eu^{152} and Eu^{154}. Ibid.:1701-1703 (MIRA 17:12)

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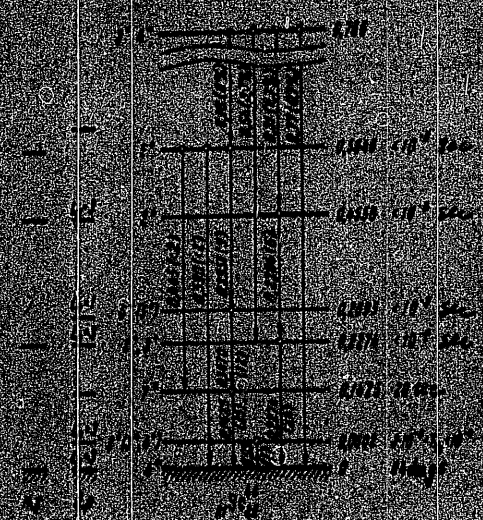
L 14487-65
ACCESSION NR: AP4048840

ENCLOSURE: 01



Level diagram for
Sc^{45}

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 14487-65

ACCESSION NR: AP4048640

5

pulse height analyzer. Delays from 10^{-3} to $1-10^{-1}$ sec were determined by chopping the neutron beam. Longer delays were investigated with a pendulum conveyer that brought the specimen from the beam to the spectrometer. The γ-ray energies determined with the scintillation spectrometer were in satisfactory agreement with those measured with a crystal spectrometer by N.P.Fiebiger, N.C.Rasmussen, J.M.Neill and I.Rahman (BAPS 7 (17),4,302,1962), and the latter energies were employed in constructing the level diagram. The results of (d,p) measurements (Nuclear Data Sheets,A-46,J.Rappoport, A.Sperduto,and W.W.Buechner,BAPS 8,48,1963) were also employed in constructing the diagram. Each γ-transition and level is discussed in some detail, and the resulting level scheme is shown in the Enclosure. "In conclusion, the authors consider it their pleasant duty to express their gratitude to D.M.Kaminker for his constant interest in the work, to L.V.Groshev, L.K.Peker and O.I.Sumbayev for valuable discussions, and to N.V.Cheburin for assistance in the measurements." Orig.art.has: 3 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01

SUB CODE: NP NR REF SOV: 002 OTHER: 007

2/3

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 14457-65 EWT(m) DIAAP/SSD/AFWL/ESD(gs)/BSD(t)
ACCESSION NR: AP4046640 S/0048/64/028/010/1695/1700

AUTHOR: Berestovoy, A.M.; Kondurov, I.A.; Loginov, Yu.Ye.

TITLE: Investigation of cascade transitions in the radiative capture of neutrons by Sc^{45} /Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-22 Feb 1964/

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.10, 1964, 1695-1700

TOPIC TAGS: nuclear physics, excited state, gamma emission, neutron capture, scandium, nuclear spectroscopy

ABSTRACT: Delayed coincidences were observed between the soft γ-rays accompanying the $Sc^{45}(n,\gamma)Sc^{46}$ reaction, and a level scheme was derived for the low-lying levels of Sc^{46}. This nucleus was chosen for study because it is light and spherical, and should therefore have a simple level scheme. The specimen was exposed to the 1 cm diameter collimated thermal neutron beam from the heavy water reactor at the Physicotechnical Institute of the AN SSSR. The detectors of the scintillation spectrometer were located 5 cm from the specimen at right angles to the neutron beam. Delays from 10^{-9} to 10^{-7} sec were determined with a time-to-amplitude converter and a

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOVOY, A. M.; KONDUROV, I. A.; LOGINOV, Yu. Ye.

"Investigation of Cascade Transitions in the Reaction $Sc^{45}(n,\gamma)Sc^{46}$."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

FTI

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOVOY, A.M.; KAMINKER, D.M.; KONDUROV, I.A.

Measuring the lifetime of the levels of Eu^{152}, Ag^{107}, and Cs^{134} nuclei engendered in (n γ) reactions. Zhur. eksp. i teor. fiz. 45 no.4:892-896 O '63. (MIRA 16:11)

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

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

LASKORIN, B.N.; PUSHLENKOV, M.F.; BERESTOVOY, A.M.; SMIRNOV, V.F.; SHCHEPETIL'NIKOV, N.N.

Horizontal mix-and-settle extractor. Ekstr.; teor.,prim.,apparat.,2:347-360 '62. (MIRA 15:9)
(Extraction apparatus)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 14488-65
ACCESSION NR: AP4048641

for these γ-transitions were determined by examining delayed γ-X coincidences. From the measured delays and internal conversion coefficients, it is concluded that the 68 keV γ-ray is due to an E1 transition, the 90 keV to an E1 transition with a slight admixture of M2 and the 97 keV to an E2 transition. The 90 keV Eu^{152} γ-ray had previously been ascribed to an E2 transition (A.M.Berestovoy, D.M.Kaminker, I. A.Kondurov, Zhur.eksp.i teor.fiz.45,892,1963). "The authors express their gratitude to D.M.Kaminker for his constant interest, and to N.V.Gheburin for assistance with the measurements." Orig.art.has: 2 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00

SUB CODE: NP NR REF SOV: 002 OTHER: 004

2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 14488-65 EWT(m) DIAAP/AFWL/SSD/ESD(gs)/ESD(t)

ACCESSION NR: AP4048641 S/0048/64/028/010/1701/1703

AUTHOR: Berestovoy, A.M.; Kondurov, I.A.; Loginov, Yu.Ye.

TITLE: Retarded transitions in Eu^{152} and Eu^{154} [Report, Fourteenth Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-22 Feb 1964]

SOURCE: AN SSSR. Izv. Seriy fizicheskaya, v.28, no.10, 1964, 1701-1703

TOPIC TAGS: nuclear physics, excited state, gamma emission, neutron capture, nuclear spectroscopy, europium

ABSTRACT: Delayed coincidences were observed between the soft and hard γ-rays produced by thermal neutron capture in Eu^{151} and Eu^{153}. These nuclei were selected for study because they lie near the boundary between spherical and deformed nuclei. The specimens were exposed to the 1 cm diameter thermal neutron beam of the heavy water reactor at the Physicotechnical Institute of the AN SSSR. The γ-rays were detected by 4 x 4 cm² NaI crystals, and the delays were determined with a time-to-amplitude converter. One soft γ-ray (90 keV) was observed from Eu^{152} and two (68 and 67 keV) from Eu^{154}. These followed the hard γ-rays with delays that indicated lifetimes of 4×10^{-7}, 4×10^{-6} and 7×10^{-8}, respectively. The internal conversion coefficients

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BERESTOVETSKIY, B.

Meat combines are being modernized. Mias. ind. SSSR 32 no.4: 17 '61. (MIRA 14:9)

1. Kiyevskiy mezhoblastnoy myasotrest.
(Kiev Province--Packing houses)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

LYAKHOVSKIY, V.N., kand.tekhn.nauk; BERESTOVENKO, K.M., inzh.; ZAYTSEV, R.V., inzh.; KIZ', A.M., inzh.; SIBIRKO, A.N., inzh.

Choosing the optimum red line over difficult terrain using electronic digital computers. Transp. stroi. 12 no.2:42-43 F '62. (MIRA 15:7)
(Electronic digital computers)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

SKLYAR, V.A.; AVRAMENKO, K.P.; PAVLOV, D.F.; BOBKOV, N.V.; BERESTOVAYA, R.V.; SKRYPNIK, Ye.P.; SEMONENKO, Ye.T.; SERGEYEVA, V.P.; KOLYAKO, D.A., red.; SOLDATOVA, N.P., otvetstv.za vypusk; GRISHNYAYEV, B.G., tekhn.red.

[Economy of Krasnodar Territory; a statistical manual] Narodnoe khoziaistvo Krasnodarskogo kraia; statisticheskii sbornik. Krasnodar, Gosstatizdat, 1958. 233 p. (MIRA 12:2)

1. Krasnodarskiy krav. Statisticheskoye upravleniye. 2. Nachal'nik Krasnodarskogo krayevogo statisticheskogo upravleniya (for Kolyako).
(Krasnodar Territory--Statistics)

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BERESTOVETSKIY, B.

Differential purchasing prices are needed for rabbit skins. Mias. ind.SSSR 32 no.6:45 '61. (MIRA 15:2)

1. Kiyevskiy myasotrest.
(Ukraine--Rabbit fur)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

at ~-50°C) with esters of this acid, and at room temperature with naphthalates. Results: (1) The vitrification temperature, T_v, of plasticized PSt drops with increasing compatibility. Pure PSt had T_v = 105°C, PSt with monoesters had T_v = 40-70°C, PSt with diphenic acid diesters yielded the lowest T_v. T_v dropped with increasing length of the alkyl radical; ethyl-octyl diphenate yielded T_v = -11°C; the naphthenates showed a low effect (T_v = 9-40°C). (2) With increasing content of CH_2 links in the alkyl radical, T_v of diphenic acid diesters approaches a minimum at n_{CH_2} = 10-12, and then rises again. (3) The structure of the aromatic radical of the plasticizer affects T_v: diphenates (and phthalates) plasticize more intensively than naphthalates. There are 3 figures and 2 tables.

ASSOCIATION: Ural'skiy gosudarstvennyy universitet im. A. M. Gor'kogo (Ural State University imeni A. M. Gor'kiy)

SUBMITTED: March 21, 1961

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOVA, V.L.

35976
S/190/62/004/006/002/026
B101/B110

15.9220

AUTHORS: Tager, A. A., Suvorova, A. I., Goldyrev, L. N., Yesafov, V. I., Berestova, V. L.

TITLE: Effect of the chemical structure of the plasticizer on the vitrification temperature of polymers. I. Plasticizing of polystyrene with diphenic acid and naphthalic acid esters

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 6, 1962, 803-808

TEXT: Thermomechanical curves were plotted for polystyrene (PSt) plasticized with 25 mole% of: monomethyl-, monoethyl-, and monobutyl diphenate; dimethyl-, diethyl-, ethyl-butyl-, ethyl-octyl-, and diheptyl diphenate; dimethyl, diethyl, and dibutyl naphthalate. The synthesis of ethyl-butyl diphenate (b.p. 167-168°C/15 mm Hg, MR 91.89) and of ethyl-octyl diphenate (MR 110.57), now produced for the first time, will be published. The compatibility of the plasticizer with PSt was studied on the basis of the critical mixing temperature, which lay at 100-130°C with diphenic acid monoester, below room temperature (sometimes

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BERESTOVA, V.I.; PANOVA, M.K.

Content of cobalt and copper in the organs and tissues of some fur-bearing animals. Uch. zap. Petrozav. gos. un. 12 no.3:121-125 '64. (MIRA 19:1)

1. Kafedra biologicheskoy i organicheskoy khimii Petrozavodskogo gosudarstvennogo universiteta imeni O.V. Kuusinena.

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L 63952-65

ACCESSION NR: AP5000145

ticle it is impossible to judge as to which type of engine was used on Zond-2; this stems primarily from the fact that the author states that preference should not be given to any particular type of engine and, depending on the mission, each has its individual advantages.

Orig. art. has: figures, 1 graph.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: PR, SV

NR REF SOV: 000 OTHER: 000 ATD Press: 4066-F

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 63953-65
ACCESSION NR: AP5020[illegible]

gines. Starting with electrothermal engines, author Berestov describes various engine operating principles and engineering problems. He states that the plasma heats to 5000—20,000°K in an electric arc engine. The second major category of engines discussed in the article are magnetic plasma engines. Of plasma engines with intersecting magnetic and electric fields, one shortcoming is described which results in increased hydraulic and heat losses and in a 0.3—0.4 efficiency. A magnetic plasma engine utilizing Hall currents is described briefly and it is stated that in tests of model engines, a specific impulse of 3000 sec and an efficiency of about 50% were obtained. Finishing his article with a discussion of the use of plasma engines in space, the author envisages a 20—50-fold saving of the working media on long flights, which would make it possible to increase the payload.

The author mentions that six plasma engines were used on Zond-2 and quotes Academician M. Millionshchikov on the same subject. From the ar-

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L 61053-65 FSS-2/EWT(1)/FS(s)/EWT(m)/EPF(c)/EWP(f)/EPF(n)-2/EWG(v)/EWP(c)/
EWG(s)/EWA(d)/EWA(m)-2/EWA(n)-2/EWC(s) LIP(c)/WH TT/WW/JW/AT/WW
ACCESSION NR: AP5020143 UR/0209/65/000/008/0064/0069

AUTHOR: Bereatov, Yu. (Docent, Candidate of technical sciences)

TITLE: Plasma engines and their possibilities

SOURCE: Aviatsiya i Kosmonavtika, no. 8, 1965, 64-69

TOPIC TAGS: plasma physics, rocket engine, propulsion engineering, plasma propulsion, spacecraft propulsion, electromagnetic propulsion

ABSTRACT: In an article dealing in general terms with plasma engines and their applications, the author states, for comparison, that modern liquid-propellant rocket engines have a specific impulse of 300 — 350 sec, and that by using hydrogen as a fuel, nuclear rocket engines will develop a 900 — 1200-sec specific impulse. Further, through electric heating in an arc discharge or high-frequency field, temperatures of 5000 — 15,000°K can be obtained. Passing to the actual subject matter of the article, the author presents in chart form what is described as a first approximation in the classification of plasma en-

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[illegible], V.; [illegible], V.; [illegible], N.; [illegible], E.; [illegible], V.; [illegible], V.A., kand. veterinarnykh nauk, [illegible]

Use of protein hydrolysates in fur farming. [illegible] 1960. [illegible]

[illegible]

1. Kafedra zootekhnii Petrozavodskogo [illegible] universiteta.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOV, V. A., CAND VET SCI, "APPLICATION OF PROTEIN HYDROLYSATES (AMINOPEPTIDE-2 AND HYDROLYSIN L-103) IN ALIMENTARY KETONURIA OF PREGNANT SHEEP AND DYSPEPSIA OF NEWBORN CALVES." KAZAN', 1961. (~~MGKH~~ [MIN OF AGR] USSR, KAZAN' VET INST IM N. E. BAUMAN). (KL, 3-61, 227).

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOV, S., brigadir.

Working for 1958. Stroitel' no.2:8 F '57. (MIRA 10:3)

1. Kompleksnaya brigada kamenshchikov-montazhnikov tresta Stalingradgidrostroy.
(Volzhsk--Building)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOV, M.

Peking plane modellers. Kryl.rod. 4 no.7:22 Jl '53. (MLRA 6:7)
(Peiping--Airplanes--Models) (Models--Airplanes--Peiping)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOV, M.

Strict discipline is the integral quality of the Soviet man. Kryl. rod. 3 no.11:14-15 N '52. (MIRA 8:8)
(Military discipline)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

HERESTOV, M.

Wings of our motherland. Kryl. rod. 3 no.1:11-14 Ja '52.
(Aeronautics--Exhibitions) (MIRA 8:8)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOV, M.

Gor'kii and pilots. Kryl.rod. 2 no.6:5-6 Je '51. (MLRA 8:8)
(Gor'kii, Maksim, 1868-1936)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOV, A.V. (Head District Veterinary Doctor), BERESTOV, V.A. (Candidate of Veterinary Sciences), KLYAPISHEV, I.A., SHAKMAKOVA, V.I. and MAKAROV, N.V. (Veterinary Doctors), BARABOSHIN, S.A., BUCHINOV, I.N., LYAMIN, A.F., FEDOROV, Yu. I., and FILIMONOV, I. Ya. (Veterinary Medical Assistants, Ul'yanov Oblast', Terentul'sk District).

"Protein hydrolysates in dispepsia in newborn calves..."
Veterinariya, vol. 39, no. 3, March 1962 pp. 71

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOV, I.F.; GOLOVINA, N.V.; PUKHAL'SKIY, I.M.

Communist labor movement in the "Smychka" Canning Plant in Rostov. Kons. i ov. prom. 18 no.11:3-5 N '63. (MIRA 16:12)

1. Rostovskaya-na-Donu vysshaya partiynaya shkola (for Berestov). 2. Konservnyy zavod "Smychka" (for Golovina). 3. Rostovskiy-na-Donu finansovo-ekonomicheskiy institut (for Pukhal'skiy).

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOV, A.V. (Head District Veterinary Doctor), BERESTOV, V.A. (Candidate of Veterinary Sciences), KLYAPISHEV, I.A., SHAKMAKOVA, V.I. and MAKAROV, N.V. (Veterinary Doctors), BARABOSHIN, S.A., BUCHINOV, I.N., LYAMIN, A.F., FEDOROV, Yu. I., and FILIMONOV, I. Ya. (Veterinary Medical Assistants, Ul'yanov Oblast', Terentul'sk District).

"Protein hydrolysates in dispepsia in newborn calves..."
Veterinariya, vol. 39, no. 3, March 1962 pp. 71

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTOV, A. I.

Akimov, M. P. and Berestov, A. I. "A comparative biocenotic analysis of the animal population of the region of the Dnieper rapids and Dnieper reservoirs in the first years of its existence," Nauch. zapiski (Dnepropetr. gor. un-t), Vol. XXXII, 1948, p. 161-76 - Bibliog: 12 items

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 32754-66 EWP(j)/EWT(m)/T IJP(c) RM

ACC NR: AP6012706 SOURCE CODE: UR/0190/66/008/004/0569/0572

42

AUTHOR: Zharikova, Z. F.; Reztsova, Ye. V.; Berestneva, Z. Ya.; Kargin, V. A. B

ORG: Physicochemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: The effect of supramolecular structure in rubbers on their mechanical properties

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 4, 1966, 569-572

TOPIC TAGS: natural rubber, synthetic rubber, vulcanization, molecular structure

ABSTRACT: The dependence of the mechanical properties of structures in thiuram vulcanizates with natural rubber and synthetic polyisoprene, polybutadiene, and sodium butadiene rubbers, on its supramolecular structures was investigated. Vulcanized rubber with more ordered structure was found to possess superior mechanical properties. Change in mixing temperature (in the range of 25—70C) does not significantly affect the structure and properties of the rubber. Structure formation in thiuram polyisopreme vulcanized rubber subjected to stretching was investigated by electron microscopy. Ribbon-like structures were found to be perpendicular to the applied force during stretching of vulcanized rubbers. Orig. art. has: 4 figures and 1 table. [NT]

SUB CODE: 11/ SUBM DATE: 05Feb65/ ORIG REF: 007/

Card 1/1 UDC: 678.01:53+678.43

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 27308-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6008975 SOURCE CODE: UR/0190/65/007/011/1927/1929

AUTHORS: Konstantinopol'skaya, M. B.; Koretskaya, T. A.; Berestneva, Z. Ya.; Kargin, V. A.

ORG: Physico-Chemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: Structure formation in regular polyamides

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 11, 1965, 1927-1929

TOPIC TAGS: polymer structure, polymer nylon, electron microscopy

ABSTRACT: The present investigation is an extension of earlier published work by M. B. Konstantinopol'skaya, Z. Ya. Berestneva, and V. A. Kargin (Vysokomolek. soyed., 7, 420, 1965). The polymorphism of 6, 6-6, and 6-10 nylons was studied as a function of the temperature and nature of solvent. The form of the crystallites was determined by means of an electron microscope. It was found that, depending on the experimental conditions, two types of crystal forms were formed, viz.: plates and fibrilles. The formation of the latter was enhanced by shortening the time of secondary structure formation, e.g. rapid evaporation of solvent, addition of precipitating agent, and recrystallization of the polymer from the melt. Several electron microscope slides are presented. Orig. art. has: 12 photographs.

SUB CODE: 11/ SUBM DATE: 16Dec64/ ORIG REF: 002

Card 1/1 UDC: 678.01:53+678.675

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 21426-66 EWT(m)/EWP(j)/T RM/WW

ACC NR: AP6010429 SOURCE CODE: UR/0020/66/167/002/0384/0385

AUTHOR: Kargin, V. A. (Academician); Berestneva, Z. Ya.; Bogdanov, M. Ye.; Efendiyev, A. A.

ORG: Physicochemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: The problem of ordering in amorphous polymers

SOURCE: AN SSSR. Doklady, v. 167, no. 2, 1966, 384-385

TOPIC TAGS: amorphous copolymer, ordered structure, supramolecular structure, morphological form, globule, fibril

ABSTRACT: A study has been made of the structure of the allylbarbituric acid-acrylic acid copolymer prepared by radical copolymerization. The copolymer is amorphous and noncrystallizing by virtue of its irregular structure. However, from dilute aqueous solutions (10^{-1}—10^{-2} g/100 ml; pH, 1.0) the copolymer was shown to form large ordered structures. These structures are highly oriented, exhibit marked optical anisotropy, and consist both of globular and fibrillar formations. Orig. art. has: 3 figures. [BO]

SUB CODE: 07, 11/ SUBM DATE: 02Jun65/ ORIG REF: 003/ ATD PRESS: 4221

Card 1/1 UDC: 539.213

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

KONSTANTINOPOL'SKAYA, M.B.; KORETSKAYA, T.A.; BERESTNEVA, Z.Ya.; KARGIN, V.A.

Structure formation in regular polyamides. Vysokom. soed. 7 no.11:1927-1929 N '65. (MIRA 19:1)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova. Submitted December 16, 1964.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

RYABOVA, L.G.; BERESTNEVA, Z.Ya.; PRAVIKOVA, N.A.

Electron microscope study of turbidimetric titration of polystyrene. Vysokom.soed. 7 no.10:1796-1797 O '65. (MIRA 18:11)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

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L 11428-66
ACCESSION NR: AP5021366

ENCLOSURE: 01

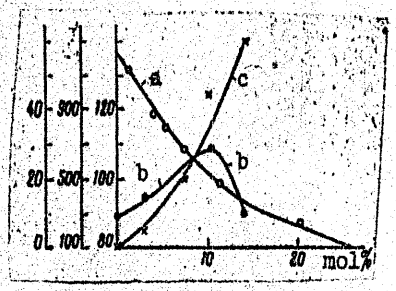

Fig. 1. Dependence of the crystallinity (a), tensile strength (b), and elongation of the copolymers of ethylene and vinyl acetate on the content in vinyl acetate groups

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L 1428-66

ACCESSION NR: AP5023366

3

copolymers by linear mobile structures (fibrils and sheaves) and that spherulite fragments produce a self-reinforcing effect on the system. Orig. art. has: 2 figures. [BO]

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physical Chemistry Institute)

SUBMITTED: 26Apr65 ENCL: 01 SUB CODE: OC,MT

NO REF SOV: 006 OTHER: 002 ATD PRESS: 4097

Card 2/3

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 1428-66 EWT(m)/EPF(c)/EWP(j)/T RPL WW/RM

ACCESSION NR: AP5023366 UR/0020/65/164/001/0112/0114

44,55

AUTHOR: Kargin, V. A. (Academician); Konstantinopol'skaya, M. B.; Terteryan, R. A.; Berestneva, Z. Ya.

44,55 44,55 44,55

TITLE: Nature of crystalline elastic copolymers of ethylene

44,55

40
37
B

SOURCE: AN SSSR. Doklady, v. 164, no. 1, 1965, 112-114 and insert facing page 97

TOPIC TAGS: morphology, copolymer, crystalline polymer, elastomer, ethylene, vinyl acetate

ABSTRACT: A study has been made of the effect of morphological forms on the properties of crystalline elastic copolymers. The experiments were conducted with ethylene—vinyl acetate copolymers with various ratios of components. The dependence of the crystallinity and of mechanical properties of the copolymers on vinyl acetate group content was determined first. The results are given in Fig. 1 of the Enclosure. An electron microscopic study of the copolymers was conducted next. It was shown that in the range of the optimum mechanical properties (8—20 mol% vinyl acetate groups), the copolymers contain no higher morphological forms (spherulites) but only such elementary formations as fibrils and sheaves together with spherulite fragments. It is suggested that the optimum elastic properties are imparted to the

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L 04863-65

ACCESSION NR: AP5011502

80-180C for 2 hr and rapidly cooled revealed the formation of ribbon structures. It was concluded that ribbon-like structures are, apparently, inherent in all polymers in the high-elastic state, provided that their decompositon temperature is much higher than their T_g. Study of the morphology of surfaces of BMK-5-based varnish films treated in a similar manner yielded analogous results. Thus, structure formation in these films takes place at temperatures above the polymer's T_g and results in randomly distributed ribbon-like structures. Investigation of the structure of varnish coatings in the course of their aging at 45C for two days showed that aging at comparatively low temperatures does not affect the structure of the coatings but favors the development of defects on the film surface. However, prolonged aging could also cause structural changes and adversely affect the properties of the coatings. Orig. art. has: 3 figures. [SO]

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute); Gosudarstvennyy nauchno-issledovatel'skiy proyektnyy institut lakokrasochnoy promyshlennosti (State Design and Planning Scientific Research Institute of the Varnish and Paint Industry)

SUBMITTED: 07Jun64 ENCL: 00 SUB CODE: MT, OC

NO REF SOV: 003 OTHER: 000 ATD PRESS: 4031

Card 2/2 gmx

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 54813-65 EWT(m)/EWP(e)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/WW

ACCESSION NR: AP5016502 UR/0190/65/007/006/0998/0999
678.01:53-678.744

AUTHOR: Konstantinopol'skaya, M. B.; Kanevskaya, Ye. A.; Karyakina, M. I.; Berestneva, Z. Ya.; Kargin, V. A.

TITLE: Structure of butyl methacrylate-methacrylic acid copolymer

SOURCE: Vysokomolekulyarnye soyedineniya, v. 7, no. 6, 1965, 998-999, and insert facing p. 959

TOPIC TAGS: butyl methacrylate, methacrylic acid, copolymer, elastomer structure, ribbon like structure, varnish coating, varnish coating structure

ABSTRACT: An earlier study (Kalashnikova, V. G., M. V. Kazhdan, Z. Ya. Berestneva, and V. A. Kargin. Vysokomolekulyarnyye soyedineniya, v. 6, no. 5, 1964, 906-909) showed that certain elastomers are ordered systems whose structure consists of ribbons 1000 Å thick. In this study an attempt was made to show that in polymers, in general, ribbon-like structures are associated with the high-elastic state. The experiments were conducted with the straight-chain amorphous butyl methacrylate-methacrylic acid copolymer BMK-5 (carbonyl group content, 5%; glass temperature (T_g, 40C). Electron microscopic investigation of thin BMK-5 films heated at

Card 1/2

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L 13097-65
ACCESSION NR: AP5008366

in the crystals. Etching made it possible to isolate elementary components of fibrillar formations, 100 Å in width.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-Chemical Institute)

SUBMITTED: 06May64 ENCL: 00 SUB CODE: 00

NO REF SOV: 002 OTHER: 003

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 41097-65 EWT(m)/EWP(1)/T Pc-4 RM

ACCESSION NR: AP5003366 S/0190/65/007/003/0420/0422

AUTHOR: Konstantinopol'skaya, M. B.; Berestneva, Z. Ya.; Kargin, V. A.

TITLE: Structuration of a polyamide copolymer

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 3, 1965, 420-422

TOPIC TAGS: polyamide, copolymer, structuration kinetics, vinyl, ethylglycol, crystal, fibrillar structure, spherulite/ JEM 5J electron microscope

ABSTRACT: An experimental investigation was conducted on the structuration process in polyamide copolymers (nylon 6,6,6,7 and 6,10). Electron microscope JEM-5J was used, and the specimens were prepared by pouring a hot solution of the copolymer onto a charcoal plate at various temperatures. It was determined that the molecular weight had no bearing on the structuration process, but that the latter was conditioned by the temperature at which the specimens were prepared and by the type of solvent. Types of structures (spherulites, fibrils, plates) originating from ethylglycol solutions at various temperatures are discussed (Abstracter's note: several illustrations are mentioned but not shown in the text). These structural elements were studied after being etched with formic acid. The fibrillar structures were found to occur at all temperatures of specimen preparation and are also present

Card 1/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

KALASHNIKOVA, V.G.; KAZHDAN, M.V.; BERESTNEVA, Z.Ya.; KARGIN, V.A., akademik

Electron microscope study of structural changes taking place during the thermal vulcanization of chloroprene rubbers. Dokl. AN SSSR 158 no.4:939-941 O '64.

(MIRA 17:11)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 16392-65
ACCESSION NR: AP5002049

2

processes in these rubbers by reduction of the temperature. The structures present in the raw rubbers were found to be preserved during the vulcanization process. The authors note that the widespread idea of rubbers as homogeneous systems, consisting of random interlaced molecular chains, connected by chemical bonds, is only a very rough approximation. Orig. art. has 4 figures.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute); Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

SUBMITTED: 19May64 ENCL: 00 SUB CODE: MT, NP

NO REF SOV: 004 OTHER: 000 JPRS

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 16352-65 EWT(m)/EWP(j) Pc-4 SSD/AFWL/ASD(a)-5/ASD(m)-3/AS(mp)-2/AFETR RM
ACCESSION NR: AP5002149 S/0020/64/158/003/0697/0698

AUTHOR: Kargin, V. A. (Academician); Zharikova, Z. F.; Berestneva, Z. Ya.; Leztsova, Ye. V.

TITLE: Study of the structure of crude and cured rubbers by the replica method

SOURCE: AN SSSR, Doklady, v. 158, no. 3, 1964, 697-698, and insert facing p. 698

TOPIC TAGS: rubber, crystallography, electron microscopy, vulcanization, molecular structure

Abstract: Isotactic polyisoprene and polybutadiene crude rubbers, sodium-butadiene rubber, vulcanizates of these rubbers with 3% thiuram, 5% zinc oxide, and 1% stearic acid, and vulcanizates of natural rubber of the same composition with various degrees of vulcanization (5, 40, and 110 min) were studied by the electron microscopic replica method (carbon replicas for the vulcanizates; two-stage lacquer-carbon replica for the crude rubbers). The investigation of the crude rubbers revealed the presence in the elastomers of structural formations in the form of random ribbons, finer for isoprene than polybutadiene. Spherulite-like structures were observed in the precooled rubbers, while in previous works only ribbon structures were observed in films prepared at room temperature indicating a promotion of crystallization

Card 1/2

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KARGIN, V.A., akademik; EFENDIYEC, A.A.; BERESTNEVA, Z. Ya.

Spontaneous formation of large oriented structures in a non-regular copolymer of the diethyl ester of vinylphosphinic acid and acrylic acid. Dokl. AN SSSR 157 no.1:125-126 Jl '64 (MIRA 17:8)

1. Fiziko-khimicheskiy institut im. L. Ya.Karpova.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

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ACCESSION NR: AP4037286

was shown that the ribbon structure, as a first step in the structure formation, is inherent in almost all rubbers. It was suggested that the elastic properties of elastomers are due to their ribbon structure. Development of more perfect structures, such as fibrils, spherulites, and spirals, was observed in natural and polychloroprene rubbers. Stretching of thin rubber films results in their rupture into bands parallel to the direction of stretch; the structural formations first orient themselves perpendicularly to the direction of the stretch and then break down. Orig. art. has: 5 figures.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Varpova (Physicochemical Institute)

SUBMITTED: 24Jun63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: MT NO REF SOV: 004 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

ACCESSION NR: AP4037286 S/0190/64/006/005/0906/0909

AUTHOR: Kalashnikova, V. G.; Kazhdan, M. V.; Berestneva, Z. Ya.; Kargin, V. A.

TITLE: Electron microscopic study of the structure of rubbers. II

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 5, 1964, 906-909, and inserts between p. 906 and 907

TOPIC TAGS: natural rubber, sodium butadiene rubber, butadiene styrene rubber, polychloroprene rubber, stereoregular isoprene rubber, stereoregular butadiene rubber, rubber structure, ribbon rubber structure, fibril rubber structure, spherulite rubber structure, spiral rubber structure, rubber elasticity, rubber failure, rubber structure formation

ABSTRACT: The structure of and structure formation in rubbers have been studied by means of the electron microscope. Experiments were conducted with natural, sodium butadiene (SKB), butadiene-styrene (SKS), polychloroprene (Nairit A; neoprenes AS and N), and stereoregular isoprene (SKT) and butadiene (SKD) rubbers. It

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

KARGIN, V.A.; SAFRONOV, N.Ya.; BERESTNEVA, Z.Ya.

Thermal decomposition of benzene over a heated molybdenum wire studied with the aid of rapid cinematography. Koll.zhur. 26 no.2:198-199 Mr-Ap '64. (MIRA 17:4)

1. Fiziko-khimicheskiy institut imeni Karpova i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti, Moskva.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTNEVA, Z. Ya.; KALASHNIKOVA, V. G.; KAZHDAN, M. V.; KARGIN, V. A.

"Electronmicroscopic study of structure in rubbers."

report submitted to 3rd European Regional Conf, Electron Microscopy, Prague, 26 Aug-3 Sep 64.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

KONSTANTINOPOL'SKAYA, M.B.; BERESTNEVA, Z.Ya.; KARGIN, V.A.

Effect of the molecular weight on the cross-linking of low pressure polyethylene. Part 4. Vysokom.soed. 5 no.11:1702-1705 N '63. (MIRA 17:1)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

KARGIN, V.A., akademik; EFENDIYEV, A.A.; BERESTNEVA, Z.Ya.

Electron microscope study of the structure of a copolymer of diethyl ester of vinylphosphinic acid and acrylic acid having complex-forming properties. Dokl. AN SSSR 155 no.6:1401-1403 Ap '64. (MIRA 17:4)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

SAFRONOV, N.Ya.; BERESTNEVA, Z.Ya.; KARGIN, V.A.

Thermal decomposition of benzene and heptane on an incandesced molybdenum wire. Koll. zhur. 25 no.4:468-471 Jl-Ag '63. (MIRA 17:2)

1. Fiziko-khimicheskiy institut imeni Karpova i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti, Moskva.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

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L 18659-63
ACCESSION NR: AP3005441

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute)

SUBMITTED: 5May63 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: CH, MA NO REF SOV: 003 OTHER: 001

Card 3/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 18659-63
ACCESSION NR: AP3005441

well developed fibrillar crystals were formed; at 100C, crystal nuclei with fibrils building up on them; and at higher temperatures, less regular band-like formations. The entire process of fibrillar-crystal formation was thus observed. The effect of temperature on the crystallization of the copolymer is explained by the fact that the nature of the secondary structures formed depends on the degree of supersaturation of the solution. The latter is determined by the change in copolymer solubility with temperature and by the rate of evaporation at a given temperature. From this study, and from previous studies by Kargin and his associates, it is concluded that all peculiarities of structure formation which are dependent on the type of chain structure can be observed. Thus, regular polyolefins readily form lamellar crystals. In polystyrene, which has less regular chains and considerable molecular interaction, crystallization is slowed down and the entire process of structure formation, from amorphous fibrils to lamellar crystals, can be observed. In polyamide copolymers, which have irregular chains and exhibit a high degree of molecular interaction, only fibrillar crystals are formed, by a direct building up of fibrils. In polymers with a rigid cellulose-type chain, structure formation does not proceed beyond the amorphous-fibril stage. Orig. art. has: 3 figures.

Card 2/3

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

L 18659-63 EWP(j)/EWT(m)/BDS AFFTC/ASD Pc-4 RM/MAY

ACCESSION NR: AP3005441 S/0020/63/151/005/1108/1109 64

AUTHOR: Konstantinopol'skaya, M. B.; Berestneva, Z. Ya.; Kargin, V. A. (Academician) 63

TITLE: Fibrillar single crystals in polyamide copolymers

SOURCE: AN SSSR. Doklady*, v. 151, no. 5, 1963, 1108-1109

TOPIC TAGS: crystalline structure, crystallization, crystalline structure formation, secondary structure, fibril, fibrillar structure, fibrillar single crystal, copolymer, caprone-nylon-sebacamide copolymer, electron microscope, JEM-5J, ethylene glycol, substrate, carbon substrate, temperature effect, crystal nucleus, band-like formation, chain structure, lamellar crystal, amorphous fibril, caprone, nylon, sebacamide

ABSTRACT: Crystalline-structure formation in the caprone-nylon-sebacamide copolymer has been studied with the JEM-5J electron microscope. Specimens were prepared by applying a boiling solution of the copolymer in ethylene glycol onto carbon substrates whose temperatures varied from 20 to about 180C. Fibrillar structures were formed at all temperatures in this range. At 90C,

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AID Nr. 976-14 24 May

FORMATION OF SECONDARY STRUCTURES [Cont'd] S/069/63/025/002/004/010

formed; 2) above 100°C mainly simple secondary structures (bundles and ribbons) are observed; and 3) the greatest variety of structures is formed at 90°C. Experiments conducted with decalin and tetralin solutions of PE yielded similar results; at 90°C α-chloronaphthalene solutions of PE yielded only complex secondary structures, owing to the slower evaporation of the solvent. The character of the structures formed was shown to be almost independent of the concentration of the solution in the 0.001 to 0.1% concentration range. The formation of structures proceeded very rapidly (in a matter of seconds). It is believed that the solutions contain, in addition to dissolved molecules, bundles which are the main structural units of the secondary structures. Thus, in the process of structure formation in solution the character of secondary structures must depend on such factors as solution cooling rate and solvent evaporation rate, which favor or impede the development of complex structures.

[BAO]

Card 2/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

AID Nr. 976-14 23 May

BERESTNEVA, Z. YA.

FORMATION OF SECONDARY STRUCTURES IN POLYETHYLENE (USSR)

Konstantinopol'skaya, M. B., Z. Ya. Berestneva, and V. A. Kargin.
Kolloidnyy zhurnal, v. 25, no. 2, Mar-Apr 1963, 174-177.

S/069/63/025/002/004/010

The influence of temperature, type of solvent, and solution concentration on the structures formed in low-pressure polyethylene (PE) has been studied by the electron microscope method at the Physicochemical Scientific Research Institute imeni L. Ya. Karpov. The experiments were conducted with PE of an average mol. wt. of 190,000 to 1,000,000 (in this range mol. wt. does not affect structure). The results of the study are given in the form of electron micrographs. The influence of temperature on structure was studied by depositing a PE film from a boiling 0.01% solution of PE in xylene onto a calloxylin substrate heated to 20 to 120°C. It was shown that 1) at 20 to 70°C such complex secondary structures as planes, spirals, and crystals are

Card 1/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

ZHURAVLEVA, V.G.; BERESTNEVA, Z.Ya.; KARGIN, V.A., akademik

Electron microscope study of the structure of isotactic polybutylene. Dokl. AN SSSR 146 no.2:366-367 S '62. (MIRA 15:9)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova.
(Butene) (Polymers)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

Electron microscope study...

S/020/62/144/005/012/017
B124/B138

E. A. Hauser, Rubber Age, 78, 5, 713 (1956).

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

SUBMITTED: March 1, 1962

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

S/020/62/144/005/012/017
B124/B138

AUTHORS: Kargin, V. A., Academician, Zhuravleva, V. G., and Berestneva, Z. Ya.

TITLE: Electron microscopic study of rubber structures

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 5, 1962, 1089-1090

TEXT: Contrary to current views of elastomers as systems consisting of entangled molecular chains, electron-microscopic analysis of thin natural and synthetic rubber (СКБ-30 (SKB-30)) films showed that they consist of a disordered arrangement of bands which are shown to be the structural elements of the film. The nature of the pattern remains the same with a different support. When the film is stretched, fine fibers appear which are the elementary structural units of rubber, i.e., bundles of chains. At -50°C, structures are produced with a higher degree of order. There are thus ordered regions in rubbers just as in other amorphous polymers. There is 1 figure. The English-language references are: V. A. Kargin, J. Pol. Sci., 30, 247 (1958); C. E. Hall, E. A. Hauser et al., Ind. and Eng. Chem., 36, 7, 634 (1944); E. A. Hauser, Rubber Age, 78, 6, 881 (1956);

Card 1/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

26303

S/190/61/003/008/016/019
B110/B208

Spiral structures of...

Stretching of the crystals gives rise to filamentous structure. (5) High-pressure PE and radiation PE show a different structure as compared with low-pressure PE: (a) distinctly pronounced spherolites, (b) band structure, which may either appear separately or in spherolite form. A paper by P. V. Kozlov, N. F. Bakeyev, Li P'ang- T'ung, A. S. Kaftanova (Ref. 2: Vysokomolek. soyed., 2, 421, 1960) is mentioned. The authors thank A. D. Abkin, P. M. Khomikovskiy, and N. V. Makletsova for the supply of radiation PE. There are 12 figures and 2 Soviet references.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: December 23, 1960

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

26307

S/190/61/003/008/016/019
B110/B208

15.8060

AUTHORS: Konstantinopol'skaya, M. B., Berestneva, Z. Ya., Kargin, V.A.

TITLE: Spiral structures of polyethylene. II

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 8, 1961, 1260 - 1264

TEXT: In a previous paper by the authors (Ref. 1: Vysokomolekulyar. soyed., 2, 1715, 1960) low-pressure polyethylene was shown to form spiral structures under certain conditions. In the present paper they studied various modifications of PE with respect to spiral structure. Low-pressure PE, high-pressure PE, and radiation PE were used. Xylene solutions of PE (0.1 and 0.01%) were prepared and the boiling solution was applied to colloxylin bases heated to 100 - 110°C. The study was carried out by means of a УЭМБ-10 (UEMB-10) electron microscope. [Abstracter's note: the electron microscope photographs are not reproducible.] The following was found: (1) Some parallel spirals appear with low-pressure PE. (2) When the solution was diluted, spherolite crystals were observed in addition to spirals. (3) Laminas appear in addition to spirals. (4)

Card 1/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

The Crystallization Mechanism of Colloidal Titanium Oxide

S/069/60/022/005/003/011
B015/B064

down the rate of crystallization of colloidal titanium dioxide. After the removal of electrolytes, the usual electron microscopic images (Fig.1) were obtained for the spherical colloidal titanium dioxide particles. If, instead of water, an organic solvent (benzene, toluene, or heptane) was used, electron microscopic images were obtained (Fig. 2) that differed only in that the particles did not aggregate. Thus, it may be assumed that the surface tension at the interface does not exert an essential influence upon the crystallization of the colloidal titanium dioxide. On the other hand, it was found that an addition of water to systems produced in organic solvents has a strong influence upon the rate of crystallization. There are 2 figures and 1 Soviet reference.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova, Moskva (Scientific Research Institute of Physical Chemistry imeni L. Ya. Karpov, Moscow)

SUBMITTED: February 25, 1960

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

S/069/60/022/005/003/011
B015/B064

AUTHORS: Berestneva, Z. Ya., Konstantinopol'skaya, M. B., Kargin, V. A.

TITLE: The Crystallization Mechanism of Colloidal Titanium Oxide

PERIODICAL: Kolloidnyy zhurnal, 1960, Vol. 22, No. 5, pp. 557-559

TEXT: In continuation of a previous paper (Ref. 1) the authors investigate the effect of surface tension at the interface between colloidal particles and intermicellar liquid on the crystallization of titanium dioxide. Since no direct method of examining the surface tensions of such systems is available, surface tension was changed by changing the composition of the intermicellar liquid, and the crystallization process was observed by a combination of electron microscopy and electron diffraction studies. The colloidal solutions were obtained by adding titanium tetrachloride to doubly distilled water at a temperature from -2° to $+1^{\circ}C$, and the sol was concentrated with an ultracentrifuge. Practically all electrolytes could be removed from the intermicellar liquid by repeating this operation (between -2° and $+21^{\circ}C$, five to ten times). It was found that the removal of the electrolytes from the intermicellar liquid slow-

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

S/190/60/002/011/020/027
B004/B060

Fig.5

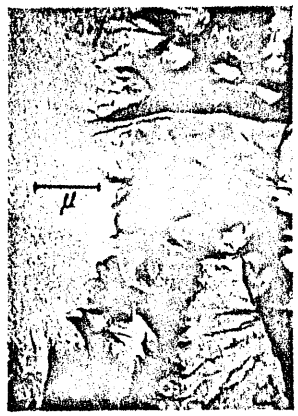

Fig.6

Fig.7

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

Spiral Structures of Polyethylene

S/190/60/002/011/020/027
B004/B060

the polymer due to higher concentration. There are 7 figures and 5 Soviet references.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

SUBMITTED: May 27, 1960

Card 2/3

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

S/190/60/002/011/020/027
B004/B060

AUTHORS: Konstantinopol'skaya, M. B.; Berestneva, Z. Ya.; Kargin, V. A.

TITLE: Spiral Structures of Polyethylene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 11, pp. 1715 - 1716

TEXT: The authors used electron microscopic analyses to study the structural modifications taking place in polyethylene, when more concentrated solutions were used in comparison with previous experiments. A solution of 0.2% polyethylene in toluene was heated to 110°C and applied onto a colloxyline base. The pictures were taken by a УЭМБ-100 28 (UEMB-100) electron microscope. Unlike previously described processes (Refs. 1-4), wherein first packets, then planes, and finally crystals were formed, in the experiment concerned the authors first observed fibril structures passing over into planes giving rise in turn to spiral structures: Figs. 5-7. The appearance of these structures is explained by a reduced mobility of the individual molecular segments of

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BERESTNEVA, Z. Ya. and KARGIN, V. A.

"The Crystallization Mechanism of Colloid Titanium Dioxide."

report presented at the Section on Colloid Chemistry, VIII Mendeleyev Conference of General and Applied Chemistry, Moscow, 16-23 March 1959.
(Koll. Zhur. v. 21, No. 4, pp. 509-511)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

KARGIN, V.A.; KONSTANTINOPOL'SKAYA, M.B.; BERESTNEVA, Z.Ya.

Study of the wettability of solid surfaces by polymers. Vysokom.soed. 1 no.7:1074-1076 Jl '59. (MIRA 12:11)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.
(Wetting)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTNEVA, Z. YA.

15(6)

AUTHOR: Rebinder, P. A., Academician SOV/30-59-1-5/57

TITLE: New Trends of Colloid Chemistry (Novyye puti razvitiya kolloidnoy khimii)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 1, pp 44-51 (USSR)

ABSTRACT: At present, colloid chemistry plays an especially important part in political economy as it is a physical-chemical science concerning substances of modern engineering. It is of great practical importance that at present it is possible to carry on uninterrupted transitions from lyophobic to lyophilic systems. Thus, it is possible to obtain technically important substances with the required structural-mechanical properties. The theory of highly molecular substances and their solutions has developed into an independent branch of colloid chemistry. The vitality of modern colloid chemistry is proved by the fact that it produces many new independent branches of science. Further, the author describes the course of the 4th All-Union Conference of Colloid Chemistry which took place in Tbilisi on May 15-16, 1958. It was organized by the Otdeleniye khimiches-

V. A. Kargin, Z. Ya. Berestneva described the synthesis of aluminum-silicon jelly of crystalline structure.
V. N. Tsvetkov et al. examined the optical properties of macromolecular solutions and their structural peculiarities.
N. A. Dogadkin and collaborators reported on questions of compatibility of polymers and their solutions.
V. A. Kargin, P. I. Zubov and collaborators discussed the process of gelatin formation and its role in sticking processes.
S. M. Lipatov, S. I. Mayaraan referred to the coincidental results of thermochemical and dilatometrical examination methods of the transition of gelatine jelly into a liquid solution at a rise in temperature.
A. I. Yurzhenko and collaborators (L'vov), P. M. Khomikovskiy reported on the clarification of polymerization processes in the state of dispersion.
B. Ya. Yampol'skiy, Fu Shu-ch'in, S. S. Voyutskiy, A. P. Pisarenko and collaborators examined the process of the influence of active fillers on the processes of structural formation of polymers.
A. V. Dumanskiy with his school, A. A. Trapeznikov, G. V. Vinogradov and collaborators examined the properties of soap solutions in connection with their structural peculiarities and the theory of consistent lubricants.
The reports on questions of dispersion systems in polymers showed the utility of a combination of problems of colloid chemistry and the physical chemistry of polymers. The results of the Conference indicate that, besides limited consultations on individual scientific problems, comprehensive congresses are also useful and necessary, uniting the investigators and comprising the results of achievements in wide fields of science. There is 1 Soviet reference.

Card 5/6

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of spontaneous dispersion of solid bodies, especially metals, in surface-active surroundings.
V. I. Likhtman reported on the appearance of adsorptive plastification of lead and tin at normal temperatures.
L. A. Kozarovitskiy and collaborators examined the influence of rheological properties of printing colors on their behavior in the printing process.
I. N. Vlogavets reported on the regulation of crystallization and coagulation structures in the production of best table-butter.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTNEVA, Z. YA.

12. СЕКЦИЯ ЭЛЕКТРОННОЙ МИКРОСКОПИИ

Руководитель академик А. А. Лебедев

12 июня

(с 10 до 16 часов)

П. А. Стоянов,
В. В. Поливанов

Электронный микроскоп УЭМВ 100

А. И. Кибанов,
Ю. М. Кушнер

Универсальный электростатический анализатор энергии на 75 кв и некоторые вопросы его применения

И. М. Попов

Электронный микроскоп-электронограф с ускоряющим напряжением 400 кв и перспективы использования электронов повышенных скоростей для исследования структуры вещества.

И. Г. Стоянова

О возможности применения электронного микроскопа для исследования объектов в атмосфере газов и во влажном состоянии.

30

13 июня

(с 18 до 22 часов)

З. Я. Берестнева

Использование электронной микроскопии для исследования коллоидных систем и высокомолекулярных соединений.

Ю. А. Скаков

Электронно-микроскопические исследования структурных несовершенств в металлах и сплавах.

13. СЕКЦИЯ РАДИОВЕЩАНИЯ, ЭЛЕКТРОАКУСТИКИ И ЗВУКОЗАПИСИ

Руководитель И. Е. Горон

9 июня

(с 10 до 16 часов)

Б. А. Шварц

Способы повышения устойчивости работы систем усиления речи

Г. С. Гензель

Исследование распределения во времени мгновенных значений статистических сигналов.

30

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORIE), Moscow, 8-12 June. 1959

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

An Investigation of the Mechanism of the Protective Action of Lacquer Coatings SOV/20-120-5-35/47

SUBMITTED: March 1, 1958

1. Varnishes--Test methods 2. Varnishes--Electrochemistry
3. Metal--Coatings 4. Anticorrosive coatings--Effectiveness

Card 3/3

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

An Investigation of the Mechanism of the Protective Action of Lacquer Coatings SOV/20-120-5-38/67

formed. Because of the great adhesion of the lacquer coating no suitable conditions prevail at the boundary between the metal and the film for the formation of a new phase. The oxides produced dissolve in the lacquer coating, diffuse through the film and are separated at the boundary between the lacquer coating and the solution. When tests were carried out by means of the method of cathodic polarization the lacquer coating separated from the metal in places where the adhesion is smallest. Thus little bubbles are formed, the continuity of the lacquer coating, however, is maintained. The method developed in this investigation permits to estimate the protective effect of lacquer coatings. There are 6 references, 3 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova
(Physical and Chemical Scientific Research Institute imeni L. Ya. Karpov)

Card 2/3

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

SOV/20-120-5-39/67

AUTHORS: Kargin, V. A., Member, Academy of Sciences, USSR,
Karyakina, M. I., Berestneva, Z. Ya.

TITLE: An Investigation of the Mechanism of the Protective Action of Lacquer Coatings (Issledovaniye mekhanizma zashchitnogo deystviya lakokrasochnykh pokrytiy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 12o, Nr 5, pp.1065-1067 (USSR)

ABSTRACT: This problem is reduced to the application of the aggressive substance to the surface of the corroded metal through the film. The film is assumed to be ideally penetrable for the aggressive substance. Electrochemical methods are best suited for this study. The problem of the experimental investigation is basically that of maintaining a constant current in a system with a varying resistance. The maximum voltage employed in these experiments was 3 000 V. The current was automatically kept at 10 milliamperes. A 0.01 N soda solution served as electrolyte, a platinum plate as cathode and an iron rod covered with the lacquer to be investigated as anode. On the sample coated with lacquer only a few corrosion centers are

Card 1/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTNEVA, Z. Ya.; KORZHUYEV, A. S.; NICHIPORENKO, S. P.; KUKOLEVA, G. V.; OVCHARENKO, F.D
ANTIPOV-KARATAYEV, I. N.; VOLAROVICH, M. P.; SHISHNIASHVILI, M. Ye.; DENISOV, N. Ya.;
SERB-SERBINA, N. N.;

"Structure formation in the colloidal chemistry of clays and peat."

report presented at the Fourth All-Union Conference on Colloidal Chemistry, Tbilisi, Georgian SSR, 12-16 May 1958 (Koll zhur, 20,5, p.677-9, '58, Taubman, A.B)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

Berestneva, Z. Ya.

KARGIN, V.A., akademik; BERESTNEVA, Z.Ya.; ARIPOV, E.A.

Effect of water on the formation and decomposition of clay mineral aggregates. Dokl. AN Uz. SSR no.8:21-25 '57. (MIRA 11:5)

1. Nauchno-issledovatel'skiy fuzuko-khimicheskiy institut im. L.Ya. Karpova g. Moskva.

(Clay)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BEREST NEVA, Z. Ya.

On the formation of [illegible] Z. Y. [illegible], M. B. [illegible], and V. A. [illegible] (Colloid J., Voronezh, 19, 138, 1957).

Dissert. 4E4J

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTNEVA, Z. Ya.

KARGIN, V.A.; KARYAKINA, M.I.; BERESTNEVA, Z.Ya.

The mechanism of protection of metals from corrosion by varnish coatings. Soob.o nauch.rab.chl.VKHO no.3:60-62 '55. (MIRA 10:10)
(Corrosion and anticorrosives) (Varnish and varnishing)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

ILLEGIBLE

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTNEVA, Z. YA.

BERESTNEVA, Z.Ya.; SLONIMSKIY, G.L.

On the fiftieth birthday of Valentin Alekseevich Kargin. Koll.zhur. 19 no.2:129-130 Mr-Ap '57. (MLRA 10:5)
(Kargin, Valentin Alekseevich, 1907--)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTNEVA, Z. YA.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

BERESTNEVA, Z. Ya.

ARIPOV, E.; BERESTNEVA, Z.Ya.; KARGIN, V.A.

Electron microscopic study of structure formation in loess. Part 2. Effect of loess components on structure formation. Koll. zhur. 19 no.1:17-23 Ja-F '57. (MLRA 10:4)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova, Moskva.
(Loess) (Electron microscopy)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800030-6

[illegible] Z. YA.

[illegible] study of the protective quality of lacquers, [illegible] and Z. Ya. [illegible] [illegible] the high lacquer [illegible] but with an automatically [illegible] Extensive tests showed [illegible] action depended on the lacquer [illegible] which is improved by a suitable metal [illegible] An optimum lacquer film [illegible] for best protection, which is also [illegible] by the internal [illegible] in the lacquer film.

W. M. Sternberg

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Sci. Res. Physics-Chemical Inst. im L. Ya. Karpova and State Sci. Res. and Projects Institute.

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BERESTNEVA, Z. YA.

USSR

10128* Mechanism of the Formation of Colloidal Particles. O mekhanizme obrazovaniia kolloidnykh chastits. (Russian.) Z. Ia. Berestneva and V. A. Kargin. *Uspekhi Khimii*, v. 24, no. 3, 1955, p. 249-259 + 4 plates.

Method of study includes use of electron microscope. Sols of titanium dioxide, silicic acid, arsenic sulfide, aluminum hydroxide, vanadium pentoxide, and gold. Micrographs. 53 ref.

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BERESTNEVA, YA. Z.

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Electron-microscopic study of alumina-silica gels. Z. Ya. Berestneva and V. A. Kargin (L. Ya. Karpov Inst. Phys. Chem., Moscow). *Kolloid. Zhur.* 17, 106-9(1955); *C.A.* 49, 2375f.—Gels (I) prepd. by mixing 0.1*N* $Al(NO_3)_3$ with 0.1*N* Na silicate in various proportions showed spheres (of, apparently, an Al silicate) which remained amorphous for 2 yrs. Gels (II) prepd. by mixing sols of Al_2O_3 and SiO_2 contained sep. particles of Al_2O_3 and SiO_2. I, after heating to 800°, formed honeycomb structures similar to those of a clay from the bottom of the Bering Straits. II gave a microcryst. pattern after treatment at 800°. Also in *Colloid J. U.S.S.R.* 17, 181-4(1955)(Engl. translation).

J. J. Bikerman

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L 24494-66 EWT(m)/EWP(j) IJP(c) RM

ACC NR: AP6006972 SOURCE CODE: UR/0190/66/008/002/0204/0206

AUTHORS: Mazhdan, M. V.; Dyumayeva, T. N.; Berestneva, Z. Ya.; Kargin, V. A.

ORG: Physico-Chemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: Investigation of the structure-formation processes occurring during rubber breakdown

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 2, 1966, 204-206

TOPIC TAGS: vulcanization, rubber, molecular structure electron microscope/ UEMB-100 electron microscope, GYeM-5U electron microscope

ABSTRACT: Structure-formation processes occurring during the breakdown of vulcanizers of noncrystallizing sodium butadiene rubbers and of crystallizing neoprenes AC and W were investigated by electron microscopy using instruments UEMB-100 and GYeM-5 U. It was established that new orientation processes take place in disintegrated vulcanizers, leading to supramolecular structures different from those in the original rubber. The rate of structure-formation processes in disintegrated rubbers is inversely proportional to the density of the vulcanization network. The experimental data indicate that, from the structural point of view, vulcanization is a heterogeneous process. Orig. art. has: 6 figures.

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BERESTNEVA, Z. Ya.

Chem. Abst.
Vol 48, No. 9
May 10, 1954

General and Physical Chemistry

The mechanism of formation of colloidal particles of a gold sol. Z. Ya. Berestneva, T. A. Koretskaya, and V. A. Kargin. (*Colloid J.* (U.S.S.R.) 14, 327-32(1952)(Engl. translation).—See *C.A.* 47, 3083*d*. H. L. H.

(3) Chem

No. 6 8-31-54

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BERESTNYEVA, Z. YA.

USSR/Chemistry (Colloid) - Vanadium Pentoxide Mar/Apr 52

"The Structure of Vanadium Pentoxide Solubles," Z. Ya. Berestnyeva, T. A. Koretskaya, V.A. Kargin, Sci Res Phys Chem Inst imeni L. Ya. Karpov

"Kolloid Zhur" Vol XIV, No 2, 1952, pp 73-76

Electron diffraction diagrams of freshly prepd V_2O_5 sols and of sols prepd by aging were obtained. The freshly prepd sols have amorphous structure. As they age, crystn sets in. After a few days, good interference pictures of polycrystals are obtained.

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CA

The mechanism of formation of colloidal particles of aluminum hydroxide. Z. Ya. Berestneva, T. A. Kuretskaya, and V. A. Kargin (Karpov Inst. Phys. Chem., Moscow). *Kolloid. Zhur.* **13**, 323-6(1951); *cf.* C.A. **45**, 9298.—$Al(OH)_3$ sols were prepd. by mixing of $AlCl_3$ and NH_4 solns. and subsequent dialysis. Fresh sols contained spheres (visible in an electron microscope) showing no crystallinity (electron diffraction patterns). A few days later the sol contained honeycomb structures. Some weeks later, microcrystals of hydrargillite were identified. The crystn. process was more rapid than for SiO_2 but slower than for TiO_2 sols. J. J. Bikerman

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C.A.

Electron-microscope study of titania sols and the mechanism of formation of colloidal particles. Z. Ya. Berestneva, G. A. Koretskaya, and V. A. Kargin (Karpov Inst. Phys. Chem., Moscow). *Kolloid. Zhur.* **12**, 338-41(1950); cf. C.A. **42**, 7132g. Sols obtained by mixing $TiCl_4$ with cold H_2O contain originally amorphous spheres (e.g. 0.2 μ) which then crystallize within some hours. When $TiCl_4$ is *f* mixed with hot water, cryst. particles form at once. The crystals seem to be mixts. of rutile, anatase, and brookite. A new electronographic study showed that the spacings of *rutile* are *a* 4.58, *c* 2.95 A., *anatase* *a* 3.73, *c* 9.37 (contrary to literature data), and *brookite* *a* 9.20, *b* 5.44, *c* 5.14.

I. I. Bikerman

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CA

Electron-microscopic study of silica sols. Z. Ya. Berestneva, T. A. Koretskaya, and V. A. Kargin (Karpov Inst. Phys. Chem., Moscow). *Kolloid. Zhur.* 11, 309-70(1949).—Drops of SiO_2 sols evapd. on org. films and then coated with Cr show structures of 2 types: (1) particles of 0.01-0.1 μ presumably originating from the colloidal SiO_2 and (2) cracked structureless films presumably originating from the molecularly dissolved SiO_2. J. J. B.

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STRUCTURE AND PROPERTIES INDEX

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Structure of V_2O_5 sols. E. Ya. Heretinova, T. A. Koretskaya, and V. A. Kargin. *Doklady Akad. Nauk S.S.S.R.* 59, 1121-4(1948).—Electron-microscope pictures of V_2O_5 sols prepd. according to Biltz (*Ber.* 37, 1098(1904)) by adding HCl to NH_4VO_3 and washing on the filter until the filtrate turned red, dilg., and dialyzing, showed, under a magnification of 10000-18000, initial presence of sep. particles and small aggregates, growing linearly into long threads, without or with only very little branching. Thus, the particles can aggregate only at two "active" points. It contradicts any representation of a homogeneity of the surface of the particles. N. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

FUNCTIONS AND PROPERTIES INDEX

Ca

2

Adsorption of electrolytes on highly purified aluminum oxide and ferric oxide gels. Z. Ya. Berestneva and V. A. Kargin. *J. Phys. Chem.* (U. S. S. R.) 13, 1626-34 (1939). Rapid. data on the adsorption of Na_2SO_4, NaCl, HCl, H_2SO_4 and H_3PO_4 from 0.001 *N* solns. on pure Al_2O_3 and Fe_2O_3 gels as detd. by potentiometric titration are shown as functions of the residual concns. and H-ion activities. The max. amts. adsorbed, and the residual equil. concns. found, are: Na_2SO_4, 0.008 mg. equiv./l., 14.56×10^{-3} g. equiv./l.; NaCl, 0.00006, 13.3; $NaHPO_4$, 0.0 up to 16.7, on an Al_2O_3 gel contg. 10.77 g./l. On other gels adsorption was less. Up to equil. concns. of 10^{-3} g. equiv./l. the acids are almost completely adsorbed by both types of gels, H_2SO_4 most strongly, HCl least. Addn. of HCl to Na_2HPO_4 solns. increases the adsorption of phosphate ion as H_3PO_4; addn. of Na_2HPO_4 to a gel contg. adsorbed HCl liberates HCl and exchange adsorption of phosphate takes place. It is found that these results confirm previous work and views as to exchange adsorption and its significance in soil problems. Cf. *C. A.* 32, 8679, 7798[1]; 33, 6116[1].

F. H. Rathmann

COMMON ELEMENTS

OPEN

MATERIALS INDEX

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