Photoelectric Nephelometer

SOV/57-28-7-17/35

is described and the volume correction is calculated. The purification of the solutions is described. Finally some provisional data are given in form of curves. Professor V. N. Tsvetkov showed interest in this work. There are 6 figures and 8 references, 5 of which are Soviet.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR, Leningrad (Institute of High Molecular Compounds, AS USSR, Leningrad)

1. Polymer solutions--Optical properties

Card 2/2

AUTHORS: Eskin, V. Ye.,   Okuneva, M. G.   SOV/76-32-7-13/45

TITLE: The Investigation of the Polydispersity of Polymers by Means
              of the Method of Light Scattering (K voprosu ob izuchenii poli-
              dispersnosti polimerov metodom svetorasseyaniya)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 7, pp.1532-1535
              (USSR)

ABSTRACT: In the prese nt paper the authors tried to find out to which
              extent the theoretical derivations concerning the possibility
              of using the method suggested by Zimm (Ref 6) of obtaining
              qualitative data on the polydispersity of polymer samples
              are proved by experiments. The angular distribution of the
              light dispersion of solutions of a number of fractionated and
              not fractionated samples of polystyrene and mixtures was in-
              vestigated. Butanone was chosen as solvent, the angular dis-
              tribution being measured within the interval $30-150^\circ$ by means
              of an apparatus already described, a photoelectric nephelo-
              meter. The values of the molecular weights M_n, M_w and M_z
              for the samples investigated are calculated from the obtained
              curves of the angular distribution of light dispersion with
Card 1/3   other factors being excluded. In experiments with two dif-

SOV/76-32-7-13/45

The Investigation of the Polydispersity of Polymers by Means of the Method of Light Scattering

ferent solvents, toluene and butanone, it was found that the initial inclination of the curve for toluene corresponds to a considerable increase of the dimensions of the macromolecule in this solvent. The experimental results of three fractionated mixtures are given graphically and in form of a table. A more or less clearly expressed polydispersity is shown by the curves. From the data may be seen that the determinations of the mean M_n and z-mean M_z molecular weights of the mixtures according to the light scattering agree satisfactorily with the values calculated, however, with respect to the value M_n the theory needs better precising. On the other hand the investigation of the curve shape of the angular distribution of the light dispersion of polymer solutions yields satisfactory results. There are 4 figures, 1 table, and 9 references, 4 of which are Soviet.

Card 2/3

The Investigation of the Polydispersity of Polymers by Means of the Method of Light Scattering   SOV/76-32-7-13/45

ASSOCIATION: Akademiya nauk SSSR, Institut vysokomolekulyarnykh soyedineniy, Leningrad
(Leningrad, Institute of High Molecular Compounds, AS USSR)

SUBMITTED: March 4, 1957

1. Styrene (Polymerized) solutions--Properties   2. Styrene (Polymerized) solutions--Analysis   3. Nephelometers--Performance   4. Light --Diffusion   5. Organic solvents--Performance

Card 3/3

ESKIN, V.Ya.; KOROTKINA, O.Z.

Light scattering and viscosity of solutions of poly-β-vinylnaphthalene in benzene. Vysokom.soed. 1 no.11:1580-1585 N '59.
(MIRA 13:5)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Naphthalene)

24(4), 24(1)

AUTHORS: Eskin, V.Ye. and Baranovskaya, I.A.

TITLE: Acoustic Double Refraction of Phenyl-Ethyl Alcohol at Low Temperatures
              (Akusticheskoye dvoynoye lucheprelomleniye fenil-etilovogo spirta
              pri nizkikh temperaturakh)

ABSTRACT: The authors measured viscosity and acoustic double refraction of phenyl-
              ethyl alcohol ($C_6H_5CH_2CH_2OH$).   Viscosity was measured between +20 and
              -37.5°C by the falling sphere method.   Viscosity increases in this
              region of temperatures from 0.115 to 36.8 poises.   Acoustic double
              refraction was measured by a method described earlier by Tsvetkov and
              Eskin (Refs 3, 5) at ultrasonic frequencies of 18.8 and 38.5 Mc/s at five
              temperatures: -29.5, -33.0, -34.0, -36.0, -37.5°C.   The quantity
              measured in acoustic double-refraction studies was α, which is the angle
              of rotation of the analyser in the polarization photometer.   The angle α,
              plotted as a function voltage V applied to the electrodes of the
              vibrating quartz plate, is shown in a figure on p 617 for temperatures
              of -37.5°C and -29.5°C.   Benzine was used as the working liquid in
              which the quartz ultrasonic source and a small cell containing a
Card 1/3   millimetre thick layer of phenyl-ethyl alcohol were placed.   The whole

Acoustic Double Refraction of Phenyl-Ethyl Alcohol at Low Temperatures

apparatus was thermally insulated and temperature was measured with a pentane thermometer. The acousti: double-refraction coefficient K is given by

$$K = bc\lambda/l\omega^2\eta mV,$$

where $b = (\sqrt{2}/6.4) \times 10^8$; c is the velocity of sound in phenyl-ethyl alcohol; λ is the wavelength of the light used in double refraction experiments (actually 5500 Å); l is the path of the light beam in the ultrasonic field ($l = 1.6$ cm); ω is the frequency of ultrasonic vibrations; η is the viscosity of the liquid; m is the ratio of the acoustic impedances of quartz and benzine (m = 10); α is in radians and V is in e.s.u. units. The values of K are given in cols 3 and 4 of Table 1 for 18.8 and 38.5 Mc/s respectively. These values are all of the order of 10^{-11}. The relaxation time of molecular orientation τ in phenyl-ethyl alcohol was calculated from

$$\tau = \frac{1}{\omega}\left(\frac{M^2}{K^2}-1\right)^{\frac{1}{2}},$$

where M is the dynamic double-refraction coefficient. The values of τ are given in cols 3 and 4 of Table 2 for 18.8 and 38.5 Mc/s respectively.

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SOV/51-6-5-9/34

- Acoustic Double Refraction of Phenyl-Ethyl Alcohol at Low Temperatures

These values range from 1.0 to 2.1 x 10^{-7}sec. Errors in determination of τ were introduced because the quartz oscillator was tuned visually and, therefore, inaccurately. Determination of τ by a different method showed that the values of the relaxation time deduced using Eq (6) were too high by a factor of 2-4. It follows that, at -37.5°C, we should take τ = 5 x 10^{-8}sec, instead of the mean value of 1.7 x 10^{-7}sec given in Table 2. The lower values of τ agree with those calculated from the dynamic double-refraction coefficient M and the data obtained by measurement of depolarization of light scattered in phenyl-ethyl alcohol. There are 1 figure, 2 tables and 9 references, 8 of which are Soviet and 1 English.

SUBMITTED: May 23, 1958

Card 3/3

ESKIN, V.Ye.

Acoustic birefringence in a condensed (liquid) polymer.
Vysokom. soed. 2 no.2:193-196 F '60.   (MIRA 13:11)

1. Institut vysokomolekurlyarnykh soyedineniy AN SSSR.
        (Butadiene)   (Sound waves)

ESKIN, V.Ye.; GUMARGALIYEVA, K.Z.

Light scattering and viscosity of dichloro-substituted derivatives
of polystyrene in an ideal solvent. Part 1: Poly-2,5-dichlorostyrene.
Vysokom. soed. 2 no.2:265-271 F '60.   (MIRA 13:11)

1. Institut vysokomolekulyarnvkh soyedineniy AN SSSR.
                        (Styrene)

ESKIN, V.Ye.; KOROTKINA, O.Z.

Light scattering and viscosity of poly-β-vinylnaphthalene solutions
in an ideal solvent. Vysokom. soed. 2 no.2:272-278 F '60.
(MIRA 13:11)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Naphthalene)

SKAZKA, V.S.; TSVETKOV, V.N.; ESKIN, V.Ye.

Asymmetry of the critical opalescence in polymer solutions.
Vysokom. soed. 2 no.4:627-628 Ap '60.   (MIRA 13:11)
                        (Polymers)

ESKIN, V.Ye.; MAGARIK, S.Ya.

Some pretransition phenomena in the vicinity of the critical
temperature of mixing in the system polymer - solvent. Vysokom.
soed. 2 no.5:806-807 My '60.   (MIRA 13:8)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
            (Polymers)

87026
S/190/60/002/007/008/017
B020/B052

5.5300   2209

AUTHOR: Eskin, V. Ye.

TITLE: Asymmetry of the Critical Opalescence in Solutions of
            Polystyrene in Cyclohexane

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 7,
             pp. 1049-1055

TEXT: Besides the X-ray small-angle scattering method which is compara-
tively rarely applied, the measurement of the asymmetric scattering of
visible light is the only direct method of determining the dimensions of
coiled molecules in solutions. The dimension determination of macro-
molecules with molecular weights ranging from 10^4 to 10^5, is of special
interest, since in this range the transition takes place from solid,
weakly bent, rod-shaped molecules to statically coiled molecules not
traversed by the solvent. The author found the asymmetry of the critical
opalescence in the system polystyrene - cyclohexane (Ref. 6). Former
results (Refs. 6,7) obtained by measuring the asymmetry of the critical
opalescence in solutions of very narrow fractions of polystyrene in

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Asymmetry of the Critical Opalescence in
Solutions of Polystyrene in Cyclohexane

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cyclohexane, are interpreted in the present paper. The scattering asymmetry was measured by a photoelectric nephelometer (Ref. 8) at angles ranging from 25 to 150°. Cuvette and thermostat are described in Ref. 9. A common TC-15 (TS-15) circulation thermostat was used for thermostating. The wavelength of the light used, was 5460 A. The photoelectric nephelometer for determining the molecular weight was the same as above. The fractions used in the experiments were produced from the initial sample of polystyrene by two-stage fractionation. Fig. 1 shows the dependence of the reciprocal scattering intensity of $1/I_\theta$ on $\sin^2\theta/2$ (θ representing the angle of scattering) for a solution of the fraction V-3 at two different temperatures (which differed from the critical mixing temperature by 1.1 and 1.3°C). Fig. 2 shows the dynamic birefringence in one solution of the fraction V - 3. Figs. 3 and 4 give the curves $I_\theta^{-1}-(\sin^2\theta/2)$ for fractions V-9 and IX-3. These figures clearly show the increase of the initial curve gradients when the critical mixing temperature is approached, and ΔT is reduced. Fig. 5 shows the determination of T_c by the extrapolation of quantity $I_{180°}/I_{0°}$ for zero for the solutions

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Asymmetry of the Critical Opalescence in
Solutions of Polystyrene in Cyclohexane   S/190/60/002/007/008/017
                                                 B020/B052

of fractions V-3 and IX-3. The table gives the values of c, T_c, and ΔT,
the initial gradient $[(I_{00}/I_\theta)-1]/\sin^2\theta/2$, and the calculation results of
$(\overline{h^2})^{1/2}$ (mean square distance between the ends of the coiled polymer),
calculated from equation (4). The mean deviation of the values of
$(\overline{h^2})^{1/2}$ determined from the initial gradient, from the mean value, is 10%.
The last column of the table gives the values $(\overline{h_0^2})^{1/2}$ of the dimensions of
the coiled polystyrene in the solution, in the absence of volume effects.
The specific viscosity of the polystyrene in cyclohexane, measured near
T_c, is by 25% lower than in the θ point of the system (at 34.0°C).
There are 5 figures, 1 table, and 13 references: 7 Soviet and 6 US.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute
             of High-molecular Compounds of the AS USSR)

SUBMITTED: March 12, 1960

Card 3/3

5

AUTHOR: Eskin, V.Ye.

TITLE: Dependence of the Second Virial Coefficient of Polymer[1]
              Solutions, as Determined by the Light Scattering
              Method, Upon the Scattering Angle

ABSTRACT: The author reports on an investigation, which, in con-
              trast to existing theories, proved, for certain systems,
              the increase of the second virial coefficient with the
              growth of the scattering angle θ. Graph 1 gives the
              measuring results of the angle distribution of light
              scattering of high-molecular ($M \approx 25 \cdot 10^6$) polypara-
              tertiarybutylphenylmethacrylate solutions in acetone.
              The author investigated the solutions of five concen-
              trations from 0.036 to 0.006 g/100 ml. In the graph the

Card 1/2

S/069/60/022/01/020/025
D034/D003

Dependence of the Second Virial Coefficient of Polymer Solutions, as
Determined by the Light Scattering Method, Upon the Scattering Angle

more than fivefold increase of A_2 during the change of
the angle θ from 30 to 140° is very well expressed. Graph
2 gives the analogous measurings of light scattering of
poly-β-vinylnaphthalene ($M=3.5 \cdot 10^6$) solutions for five
concentrations from 0.088 to 0.012 g/100 ml in benzene.
In this case A_2 increases within the same angle inter-
val a little less than three times. The angle distri-
bution of the light scattering was measured with a
photoelectric nephelometer $\overline{/}$Ref. 4$\overline{/}$. The author also
offers a qualitative explanation of the observed pheno-
menon. There are 2 graphs and 9 references, 5 of which
are English, 2 Soviet, 1 German and 1 French.

ASSOCIATION   Institut vysokomolekulyarnykh soyedineniy AN SSSR, Lenin-
grad (Institute of High Molecular Compounds of the AS
USSR, Leningrad)

SUBMITTED: July 18, 1958
Card 2/2

ESKIN, V.Ye.; ANDREYEVA, L.N.

Light scattering and viscosity of dichloro-substituted polystyrene
in an ideal solvent. Part 2: Poly-3, 4-dichlorostyrene. Vysokom.
soed. 3 no.3:435-440 Mr '61.   (MIRA 14:6)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
       (Styrene)   (Polymers—Optical properties)

TSVETKOV, V.N.; ESKIN, V.Ye.; SKAZKA, V.S.

Asymmetry of critical opalescence in polymer solutions. Ukr.
fiz. zhur. 7 no.8:923-927 S '62.   (MIRA 16:1)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR, Leningradskiy
universitet.
                    (Polymers) (Solution (Chemistry))

AUTHOR: Eskin, V. Ye.

TITLE: Relation between molecular weight, second virial coefficient,
            and dimensions of polymer balls in a good solvent

TEXT: The relations between molecular weight, M, second virial coefficient,
A_2, the diameter, $(h^2)^{1/2}$, of the molecule ball, and the coefficient of
swelling, α, found on the basis of thermodynamic theoretical conceptions,
are discussed. The function $\Psi(\alpha)$ derived on the basis of the theory by
Flory-Orofino (Ref. 1, see below), Casassa - Markovitz (Ref. 2, see below),
and O. B. Ptitsyn, Yu. Ye. Eyzner (Vysokomolekulyarn soyed., 1, 1200
(1959)) was compared with experimental data (Fig. 1). The light scattering
in poly-2,5-dichloro styrene (M = $3.5 \cdot 10^6$ - $19.6 \cdot 10^6$), dissolved in
dioxane, was measured by means of photoelectric nephelometer, and $(h^2)^{1/2}$,
A_2, and α were determined besides M. The following function is derived:
$$\Psi(\alpha) = 3^{3/2} A_2 M^2 / 2^{1/2} \pi^{3/2} N_A (h^2)^{3/2}$$ (N_A = Avogadro's number). The
Card 1/3

Relation between molecular weight...

S/020/62/142/004/020/022
B101/B110

experimental data are close to the Casassa - Markovitz curve. For the light scattering of polystyrene ($M = 20 \cdot 10^6$) in toluene or cyclohexane. $\alpha = 2.4$; $\Psi(\alpha) = 0.30$ was found which also lies below the Flory-Orofino curve. It follows that the theoretical assumption that $(\overline{h^2})^{1/2}$ does not depend on the nature of the (good) solvent contradicts the experimental data. Therefore, a more accurate definition of α is required. An entirely different course of the function $\Psi(\alpha)$ may result therefrom, and the function may lose its universal character. There are 1 figure and 12 references: 7 Soviet and 5 non-Soviet. The three references to English-language publications read as follows: Ref.1: T.A.Orofino. P. J. Flory. J. Chem. Phys., 26, 1067 (1957); Ref.2: E Casassa, H Markovitz. J Chem Phys., 29, 493 (1958); B. H. Zimm, J. Chem. Phys., 16, 1099 (1948).

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR (Institute of High-molecular Compounds of the Academy of Sciences USSR)

PRESENTED: September 26, 1961, by S. S. Medvedev, Academician

SUBMITTED: September 14, 1961
Card 2/2

44267
S/190/63/005/001/001/020
B101/B186

15.8100

AUTHORS: Tsvetkov, V. N., Magarik, S. Ya., Klenin, S. I., Eskin, V. Ye.

TITLE: Synthesis of graft copolymers. II. Dimensions, configuration, and optical properties of the macromolecules of the graft methyl methacrylate - styrene copolymer

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 5, no. 1, 1963, 3 - 10

TEXT: Polystyrene of molecular weight $\approx 2 \cdot 10^3$ was grafted on polymethyl methacrylate, molecular weight $7 \cdot 10^4$. Refractometric examination of the copolymer composition showed the molar part of polystyrene to be 0.9. The average-weight molecular weight of $\approx (0.5 - 0.6) \cdot 10^6$ was determined by light scattering. Analysis of the diffusion curve proved the content of the low-molecular components to be no more than 5-10%. The optical anisotropy of the copolymer was determined by flow birefringence in bromoform. According to W. Kuhn and H. Kuhn (Helv. chim. acta, 26, 1394, 1943; 28, 1553, 1945), $870 \cdot 10^{-25} cm^3$ is found for the difference $(a_1 - a_2)$ in main

Card 1/2

Synthesis of graft copolymers. II. ...   S/190/63/005/001/001/020
B101/B186

polarization capacities of one macromolecular segment of the copolymer; for polymethyl methacrylate, this value is $(2 - 20) \cdot 10^{-25} cm^3$, and for polystyrene it is $-(140 - 200) \cdot 10^{-25} cm^3$. Based on Kuhn's theory, the theoretical calculation of the anisotropy of one segment of the principal methyl methacrylate chain with short graft polystyrene chains, proved that $(\alpha_1 - \alpha_2)$ is $+220 \cdot 10^{-25} cm^3$, when the polystyrene polymerization coefficient is 40 and when the molar part of polystyrene is 0.9. The experimental value, which is four times as high, is explained by the fact that the chain stiffness of the graft copolymer is higher than that of homopolymers. Conclusion: The optical anisotropy of a branched polymer may differ considerably from the anisotropy of its components. There are 5 figures and 1 table.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR
               (Institute of High-molecular Compounds AS USSR)

SUBMITTED: July 1, 1961

Card 2/2

ESKIN, V. Ye.; VOLKOV, T.I.

Light scattering and viscosity of poly -2,5-dichlorostyrene
solutions in dioxane. Vysokom.soed. 5 no.4:614-621 Ap '63.
(MIRA 16:5)

1. Institut vysokomelekulyarnykh soyedineniy AN SSSR.
   (Styrene polymers—Optical properties) (Viscosity)

L 18416-63   EPF(c)/EWP(j)/EWT(m)/BDS   ASD   Pr-4/Pc-4 RM/WW
ACCESSION NR: AP3004310   S/0030/63/000/007/0111/0113
                                                          73
AUTHOR: Eskin, V. Ye.   69

TITLE: Physics and chemistry of high-molecular compounds (Conference in Leningrad)

SOURCE: AN SSSR. Vestnik, no. 7, 1963, 111-113

TOPIC TAGS: high-molecular compound , polymerization, synthetic fiber, molecular
biology, polymerization kinetics, macromolecular structure, mobility, chains

ABSTRACT: The proceedings of the 10th annual conference of the Institute of High-
Molecular Compounds of the Academy of Sciences, SSSR, were reported. It was held
March 4-7th, and nearly 600 collaborators of scientific institutions and universi-
ties participated in it. M. M. Koton, director of the Institute, outlined in his
opening address the purpose of the conference, namely, the discussion of the first
results obtained along two new lines of studies: the establishment of scientific
bases relating to the strength and formation of fibers and the investigation of
biological polymers. At the plenary sessions papers were presented by Korotkov on
the mechanism of catalytic (anionic) polymerization, by Bresler on the transforma-
tions of nucleic acids in microorganisms, by Mikhaylov on dielectric losses and
polarizations in polymers as related to structure, and by Frenkel on the morphology

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L 18416-63
ACCESSION NR: AP3004310   4

of polymers on the above-molecular level. The subsequent work of the conference was
conducted in sections. Sessions on fiber structure were devoted to physical-chemi-
cal processes in the formation of polyvinylalcohol fibers and the structure of cel-
lulose fibers. At the section on fiber-forming polymers and materials papers were
presented on the synthesis and properties of alpha-methylacrolein and polyvinyl-
formate, as well as on the synthesis of high-molecular polyvinylenecarbonate. At
the biopolymer and polyelectrolyte section much attention was devoted to sorption
and chromatography, and great interest was shown in sorption of proteins as related
to their structural alterations. A number of problems of molecular biology were
discussed at the biopolymer section, with emphasis on DNA and RNA. At the section
on kinetics and mechanism of polymerization the paper by Korotkov on the mechanism
of catalytic polymerization was discussed. The author's theory is that the centers
of polymerization are the complex compounds, where the growth of the polymeric
chain is taking place (due to internal coordination isomerization). Additional
reports dealt with free radical polymerization and the role of peroxides in polym-
erization by alkyl aluminum compounds. The section on the structure of macromole-
cules heard papers on the investigation of conformational properties of macromole-
cules by various techniques, including double refraction in flow, polarization
luminescence, and spectroscopy. At the section on relaxation phenomena in polymers
the discussions were concerned with internal mobility in molecular chains, studied

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ACCESSION NR: AP3004310   0

by means of dielectric constant, polarization, and nuclear magnetic resonance.

ASSOCIATION: none

SUBMITTED: 00   DATE ACQ: 15Aug63   ENCL: 00

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

Card   3/3

ESKIN, V.Ye.; NESTEROV, A.Ye.

Scattering asymmetry and the development of fluctuations in
solution which do not separate into layers. Dokl. AN SSSR 152
no.6:1403-1404 O '63.   (MIRA 16:11)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR. Predstavleno
akademikom A.A. Lebedevym.

L 10433-66   EWA(j)/EWT(m)/EWP(j)/EWA(b)-2/T   WW/RM

ACC NR: AM5011706   BOOK EXPLOITATION   UR

T3vetkov, V.N.; Eskin, V.Ye.; Frankel', S.Ya.

Structure of macromolecules in solutions (Struktura makromolekul v rastvorakh),
   Moscow, Izd-vo "Nauka," 1964, 719 p. illus., tables, diagm., biblio., index.
   3,800 copies printed.

TOPIC TAGS: macromolecular synthetic polymer, macromolecular structure,
macromolecular dynamic and optic, structure in solution, physical properties

PURPOSE AND COVERAGE: This monograph is devoted to the hydrodynamic and optical
properties of macromolecules. To the latter belong: viscosity, light scattering,
sedimentation, and dynamic double refraction. This book discusses the application
of the indicated investigation methods to a series of concrete and important problems:
molecular weight determination, molecular weight distribution, macromolecule sizes,
their configurations, structures, branching, deformability, internal mobility,
stereoregularity and the analysis of the copolymer composition, heterogenéity. The
authors acknowledge the contributions of Baranov, V.G.; Korotkina, O.Z.; Shtennikova,
I.N.; and other co-workers of the Institute of Macromolecular Compounds of the Acad-
emy of Sciences of the USSR (IVS AN SSSR Institut Vysokomolekulyarnykh Soyedineniy
Akademii Nauk SSSR). This book is designed for a wide circle of scientific workers
and engineers working in the field of physics, chemistry, biology, physical chemistry,
and technology of synthetic and biologic polymers, as well as for the teaching staff

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ACC NR: AM5011706   /

and advanced students at higher educational institutions specializing in the indi-
cated sciences.

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ACC NR: AM5011706

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ACC NR: AM5011706

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SUBMITTED: 24Nov64   SUB CODE: OC, OC   NO REF SOV: 284

OTHER: 876

        jw
Card 4/4

ESKIN, V.Ye.; BARANOVSKAYA, I.A.; LIPMANOVICH, A.D., TOPCHIYEV, A.V. [deceased]

Composition inhomogeneity and fractionation of styrene copolymer with methyl methacrylate. Vysokom. soed. 6 no. 5: 894-900 / '64.   (MIRA 17:6)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

L 10433-66   E.:A(j)/EWT(m)/EWP(j)/EWA(b)-2/:   WW/RM

ACC NR,   AM5011706   ; BOOK EXPLOITATION   UR

T3vetkov, V.N.; Eskin, V.Ye.; Frenkel', S.Ya.

Structure of macromolecules in solutions (Struktura makromolekul v rastvorakh),
    Moscow, Izd-vo "Nauka," 1964, 719 p. illus., tables, diagm., biblio., index.
    3,800 copies printed.

TOPIC TAGS: macromolecular synthetic polymer, macromolecular structure,
macromolecular dynamic and optic, structure in solution, physical properties

PURPOSE AND COVERAGE: This monograph is devoted to the hydrodynamic and optical
properties of macromolecules. To the latter belong: viscosity, light scattering,
sedimentation, and dynamic double refraction. This book discusses the application
of the indicated investigation methods to a series of concrete and important problems
molecular weight determination, molecular weight distribution, macromolecule sizes,
their configurations, structures, branching, deformability, internal mobility,
stereoregularity and the analysis of the copolymer composition, heterogeneity. The
authors acknowledge the contributions of Baranov, V.G.,; Korotkina, O.Z.; Shtennikova,
I.N.; and other co-workers of the Institute of Macromolecular Compounds of the Acad-
emy of Sciences of the USSR (IVS AN SSSR Institut Vysokomolekulyarnykh Soyedineniy
Akademii Nauk SSSR). This book is designed for a wide circle of scientific workers
and engineers working in the field of physics, chemistry, biology, physical chemistry,
and technology of synthetic and biologic polymers, as well as for the teaching staff

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ACC NR: AM5011706

and advanced students at higher educational institutions specializing in the indi-cated sciences.

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    3. Dynamic double refraction in solutions of chain macromolecules -- 532
    4. Some problems of experimental techniques -- 573
Bibliography -- 583

Card 3/4

L 10433-66

ACC NR: AM5011706

Ch. VIII. Double refraction in a flow. Experimental data -- 587
    1. Low molecular weight liquids -- 587
    2. Solutions containing rigid particles or macromolecules -- 595
    3. Solutions of deformable chain molecules -- 620
Bibliography -- 805

Index -- 712

SUBMITTED: 24Nov64   SUB CODE: OC, OC   NO REF SOV: 284

OTHER: 876

        jw
Card 4/4

L 50780-65   EWT(m)/EPF(e)/EPR/EWP(j)/T   Pe-4/Pr-4/Ps-4   RPL   RM/RW

ACCESSION NR: AP5003802   S/0190/64/006/008/1541/1541

AUTHOR: Baranovskaya, I. A.; Litmanovich, A. D.; Eskin, V. Ye.; Protasova, M. S.

TITLE: Composition heterogeneity of styrene methyl methacrylate copolymers

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 8, 1964, 1541

TOPIC TAGS: macromolecular chemistry, polystyrene, acrylic plastic

ABSTRACT: The applicability of the inhomogeneity criterion Q/Q^0_{max} (Q^0_{max} is the maximum inhomogeneity corresponding to a mixture of A and B homopolymers with $M_A = M_b = M_w$) in the case of $P \neq 0$ was investigated. The dependence of Q_{max}/Q^0_{max} on P/P_{max} was studied for two cases: $P > 0$ and $P < 0$, indicating that the difference between Q_{max} and Q^0_{max} must be considered when $P/P_{max} > 0.1$ (for $P > 0$). The degree of composition inhomogeneity of Q/C_{max} of samples of statistical copolymers of styrene with methyl methacrylate, produced at 60° under various conditions: in bulk, in benzene solution, in the case of different compositions of the initial mixture of monomers, and within a broad range of degrees of conversion, was studied by

Card 1/2

L 20788-65
ACCESSION NR: AP5003802

the light-scattering method. The inhomogeneity found (especially for
samples synthesized at low degrees of conversion) exceeded that calculated
on the basis of kinetic concepts by one to two orders of magnitude.
Orig. art. has: 2 formulas, 1 graph.

ASSOCIATION: none

SUBMITTED: 20Feb64   ENCL: 00   SUB CODE: OC, OC

NO REF SOV: 000   OTHER: 002   JPRS

Card 2/2

IZYUMNIKOV, A.L.; ESKIN, V.Ye.

Improvement of Peaker's photoelectric nephelometer. Prib.
i tekh. eksp. 9 no.5:178-179 S-O '64.
(MIRA 17:12)

ESKIN, V. Ye.

    Light scattering as a method for studying polymers. Usp.
fiz. nauk 82 no. 4:649-706 Ap '64.   (MIRA 17:5)

ESKIN, V.Ye.; NESTEROV, A.Ye.

Anomalous scattering of light in nondemixing solutions and the
level of fluctuations. Ukr. fiz. zhur. 9 no.5:540-544 My '64.
(MIRA 17:9)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR, Leningrad.

BARANOVSKAYA, I.A.; ESKIN, V.Ye.

Partial branching of poly-p-chlorostyrene. Vysokom. soed. 7 no.2:
339-345 F '65.
(MIRA 18:3)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

BARANOVSKAYA, I.A.; LITMANOVICH, A.D.; PROTASOVA, M.S.; ESKIN, V.Ye.

Composition inhomogeneity of statistical styrene-methyl metha-crylate copolymers. Vysokom. soed. 7 no.3:509-512 Mr '65.

(MIRA 18:7)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR i Institut neftekhimicheskogo sinteza AN SSSR.

BARANOVSKAYA, I.A.; KLENIN, S.I.; MAGARIK, S.Ya.; TOVETKOV, V.N.; ESKIN, V.Ye.

Hydrodynamic properties of macromolecules of graft polymers of butyl methacrylate and methyl methacrylate with styrene. Vysokom. soed. 7 no.5:878-883 My '65.　(MIRA 18:9)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

RADIMOVSKATA, J....; MEHEL, M.L.; SMUDLA, J....; TO...T...; L.L.;
.....

Physical properties of macromolecules of graft polymers of butyl
methacrylate and methyl methacrylate with styrene. Vysokom. soed.
7 no.5:884-890 My '65.   (MIRA 18:9)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

ESKIN, V.Ye.; IZYUMNIKOV, A.L.; ROGOZHKINA, Ye.D.; VYRSKIY, Yu.P.

Composition inhomogeneity of statistical styrene - butyl
methacrylate copolymers. Vysokom.soed. 7 no.7:1184-1187 Jl
'65.   (MIRA 18:8)

1. Fiziko-khimicheskiy institut imeni Karpova i Institut
vysokomolekulyarnykh soyedineniy AN SSSR.

ESKIN, V.Ye.; NESTEROV, A.Ye.

Critical opalescence and intermolecular interaction in solutions of poly-β-vinylnaphthalene. Vysokom.soed. 7 no.7:1241-1247 Jl '65.
(MIRA 18:8)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

ESKIN, V.Ye.; NESTEROV, A.Ye.

Critical opalescence in solutions of polybutyl metacrylate in isopropyl alcohol and polydimethylsiloxane in tetralin. Vysokom. soed. 7 no.8:1359-1363 Ag '65.   (MIRA 18:9)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

ESKIN, V.Ye.; KOROTKINA, O.Z.

Light dispersion by the solutions of native, denaturated and destructured deoxyribonucleic acid. Biofizika 10 no.1:26-31 '65.   (MIRA 18:5)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR, Leningrad.

ANUFRIYEVA, Ye.V.; VOLCHEF, B.Z.; ILLARIONOVA, N.G.; KALIKHEVICH, V.N.;
    KOROTKINA, O.Z.; MITIN, Yu.V.; PTITSYN, O.B.; PURKINA, A.V.; ESKIN,
    V.Ye.

Synthesis of poly-S-carbobenzoxymethyl-L-cysteine and the study of
its structure. Biofizika 10 no.2:346-347 '65.   (MIRA 18:7)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR, Leningrad.

AUTHOR: Korotkina, O.Z.; Magdinets, V.V.; Savitskaya, M.N.; Eskin, V.Ye.

WW/RM

UR/0080/65/038/011/2533/2537

ORG: Institute for High Molecular Compounds AN SSSR (Institut vysokomolekulyarnykh soedineniy AN SSSR) Scientific Research Institute for Plant Pathology ASKhN UkrSSR (Nauchno-issledovatel'skiy institut fiziologii rasteniy ASKhN UkrSSR)

TITLE: Study of the properties of polyacrylamide by the method of light scattering

SOURCE: Zhurnal prikladnoy khimii, v.38, no.11, 1965, 2533-2537

TOPIC TAGS: nitrogen compound, light scattering, polymerization

ABSTRACT: The object of the work was to establish a relationship between the characteristic viscosity η, and the molecular weight, M, for high molecular weight polyacrylamide using the method of light scattering for determination of the molecular weight. Polymerization of the acrylamide was carried out in an oxidation-reduction system in an aqueous medium in the presence of 0.5% potassium persulfate, 0.25% sodium hydrosulfate, and 0.14% triethanolamine, and in the presence of atmospheric oxygen. The polymerization temperature was 50° for the first two hours, and then 60° for eight hours. The polymer was obtained as an 8%

Card 1/2

UDC: 541

L 13074-66   EWT(m)/EWP(v)/EWP(j)/T   RPL   WW/RM

ACC NR: AP5028914   SOURCE CODE: UR/0020/65/165/003/0623/0625

AUTHOR: Eskin, V. Ye.; Nesterov, A. Ye.

ORG: Institute of High Molecular Compounds, Academy of Sciences SSSR (Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR)

TITLE: The magnitude of the cohesion energy of certain polymers

TOPIC TAGS: polymer physical chemistry, intermolecular force

ABSTRACT: Debye proposed a method (J. Chem Phys., 31, 680, 1959) for the determination of the mean radius l of the action of intramolecular forces in polymer solutions based on the measured asymmetries of the critical opalescence. According to the same author (P. Debye et al., J. Chem. Phys., 36, 1803, 1962), the quantity l^2 depends on the mean square radius $\bar{R}^2$ of the inertia of polymeric coils within the solution (at critical concentration and near the critical temperature T_k) and on the cohesion energy density for the polymer-polymer (δ_{22}), solvent-solvent (δ_{11}), and polymer-solvent (δ_{12}) combinations. Since l^2, $\bar{R}^2$, and δ_{11} may be determined separately, they can be used for the determination of δ_{22} and δ_{12}. The present authors carried out the determination of the molar energy of cohesion $\delta_{22} V_2$, and the results are summarized in Table 1.

Card 1/3   UDC: 678.01:53 + 541.6

I. 13074-66

ACC NR: AP5028914

TABLE 1 – Energy of cohesion of poly-β-vinylnaphtalene, polynaphtylmethacrylate, and polybutylmethacrylate.

Solvent	$M_w \cdot 10^{-4}$	•	T_k, °C	l, A	$(\overline{R}^2)^{1/2}$, A	•	•	$\delta^2 V_2$, Kcal/mol
Poly-β - vinylnaphtalene								
Phenylethyl alcohol	1,12	13,4	-59,9	21,0	221	∞	3,05	11400
Benzyl alcohol			63,5	46,0	139	21,3	2,78	12000
Toluene-decalin	2,3		26,4	78,5	123	4,5	4,16	8800
Polynaphtylmethacrylate								
Phenylethyl alcohol	2,6	13,1	52,0	52,2	88,7	4,2	8,6	20500
Benzyl alcohol			49,4	48,5	84,7	8,7	6,1	20000
Petrolin	2,7		25,0	64,7	62,9	1,8	9,7	16000
Toluene	2,4		36	79,9	67,5	0,87	10,6	13400
Polybutylmethacryiate								
Isopropyl alcohol	1,3		15,4	64,5	133	8,0	1,73	9700
	1,8		16,0	61,7	145	9,7	1,73	9350
	3,0		16,3	70,0	171	11,4	1,73	9100

Card 2/3

L 13074-66

ACC NR: AP5028914

The paper was presented by Academician V. A. Kargin, 12 Apr 65. Orig. art. has: 6 formulas, 1 figure, and 1 table.

SUB CODE: 07 / SUBM DATE: 18Mar65 / ORIG REF: 004 / OTH REF: 010

Card   3/3

KOROTKINA, O.Z.; MAGDINETS, V.V.; SAVITSKAYA, M.N.; ESKIN, V.Ye.

Study of the properties of polyacrylamide by the light
scattering method. Zhur.prikl.khim. 38 no.11:2533-2537
N '65.   (MIRA 18:12)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR i
Nauchno-issledovatel'skiy institut fiziologii rasteniy
akademii sel'skokhozyaystvennykh nauk UkrSSR.

ESKIN, V. Yo.; NESTEROV, A. Yo.

Scattering of light and viscosity of polypropylene sulfide solution in benzene. Vysokom. soed. 8 no. 1:141-145 Ja '66.
(MIRA 19:1)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR. Submitted March 3, 1965.

KRIVTSOV, Boris Panteleymonovich; SHAPIRO, Il'ya Grigor'yevich,
    inzh.; ESKIN, Ya.D., nauchn. red.; LAFAZAN, M.I., red.

    [Laying tiles, mosaics, and "xyloliths."] Plitochnye, mo-
    zaichnye i ksilolitovye raboty. Izd.3., perer. i dop. Mo-
    skva, Vysshaia shkola, 1964. 301 p.   (MIRA 17:7)

ESKIN, Ya.D., inzh.; GORYACHEV, V.I., inzh.; EYDIMOV, Yu.S., inzh.,
     nauchn. red.

     [Finishing operations on the construction of an experimental
     building; experience of the "Mosotdelstroi" Trust No.3 of the
     Main Division for Housing and Civil Construction in the City
     of Moscow] Otdelochnye raboty na stroitel'stve eksperimental'-
     nogo zdaniia; opyt tresta "Mosotdelstroi" No.3. Glavmosstroia.
     Moskva, Stroiizdat, 1965.   31 p.   (MIRA 18:9)

     1. Glavnyy inzhener tresta "Mosotdelstroy" No. Glavnogo ot-
     deleniya po zhilishchnomu i grazhdanskomu stroitel'stvu v go-
     rode Moskve (for Eskin). 2. Nachal'nik tekhnicheskogo otdela
     tresta "Mosotdelstroy" No.3 Glavnogo otdeleniya po zhilishch-
     nomu i grazhdanskomu stroitel'stvu v gorode Moskve (for
     Goryachev).

SOV/135-59-10-19/23

18(5)

AUTHOR: Eskin,Ye.M.

TITLE: More Attention to Soldering When Preparing Welding Specialists

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 10, p 43 (USSR)

ABSTRACT: The author states that technical education in the Soviet Union is
            neglecting training in the fields of soldering. Several fields of
            machine engineering are mentioned, where soldering is needed. The
            author proposes that the technical faculties should include cours-
            es on soldering in their program.

Card 1/1

ESKIN, Yu.

The Tula housing construction combine acts...   Na stroi. Ros. 3
no.1:32   Ja '62.   (MIRA 16:5)

1. Nachal'nik upravleniya promstroymaterialov Tul'skogo soveta
narodnogo khozyaystva.
                      (Tula Province—Concrete plants)
                      (Tula—Apartment houses)

TUKHMANYANTS, A.A.; SHAKHURINA, Ye.A.; ESKINA, G.V.

Ecology of Musca larvipara (Portsch, 1910), intermediary host
of Thelazia rhodesi (Desmarest, 1827) occuring in cattle.
Uzb.biol.zhur. 7 no.2:57-62'63.   (MIRA 16:8)

1. Institut zoologii i parazitologii AN UzSSR.
        (TASHKENT PROVINCE--PARASITES--CATTLE)
    (NEMATODA--HOST ANIMALS) (TASHKENT PROVINCE--FLIES)

ESKINA, M.Y.

Etiology of the outbreak of leptospirosis in Grodekovo and Voroshilov Districts, Maritime Territory, in 1948. Izv. Irk. gos. protivochum. inst. 12:114-118 '54.   (MIRA 10:12)
        (GRODEKOVO DISTRICT--LEPTOSPIROSIS)
        (VOROSHILOV DISTRICT--LEPTOSPIROSIS)

ACCESSION NR: AP4040467   S/0226/64/000/003/0016/0022

AUTHOR: Bal'shin, M. Yu.; Ry*bal'chenko , M. K.; Padalko, O. V.;
Eskina, N. P.

TITLE: Some problems of fiber metallurgy

SOURCE: Poroshkovaya metallurgiya, no. 3 (21), 1964, 16-22

TOPIC TAGS: metal fiber, fiber compacting, fiber sintering, fiber
metallurgy, metal felt, copper fiber, fiber structure, fiber compact
property, molybdenum fiber

ABSTRACT: The properties of copper obtained by compacting and sinter-
ing of fibers 100 µ in diameter and 10—15, 5—8, and 2—4 mm in length
have been studied. Test specimens were prepared by compacting copper
felt obtained by filtration of a copper fiber suspension in glycerin.
Specimens were then sintered in hydrogen at 980C for two hours. It
was found that specimens made of fibers 10—15 and 5—8 mm long had
the same strength, while specimens made of fibers 2—4 mm long had
10—15% less strength. Therefore, further experiments were conducted

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ACCESSION NR: AP4040467

with fibers 5—8 mm long. Fibers compact better than powders; for
instance, the porosity of powder specimens compacted under a pressure
of 20 to 30 dan/mm^2 varied from 36 to 26%, while fiber compacts made
under the same pressure had a porosity of 30 to 20%. Fiber compacts,
however, show much greater spring-back than powder compacts. After
repeated compacting and sintering, the strength of fiber compacts is
31 dan/mm^2 compared with 22—24 dan/mm^2 for cast or sintered copper.
Compacts made of fibers 50 μ in diameter have even higher strength.
The impact strength of fiber compacts decreased with increasing ten-
sile strength, with the same porosity, and varied from 0.62 to
2.5 kgm/cm^2. Copper fiber compacts impregnated with bakelite have a
tensile strength 2—4 dan/mm^2 higher, but an impact strength
0.1—0.2 kgm/cm^2 less than unimpregnated compacts. Some experiments
were also conducted with molybdenum fibers 50 μ in diameter. Molyb-
denum fiber compacts were found to have an impact strength of
1.40—1.58 kgm/mm^2; that is, several times higher than powder com-
pacts. Orig. art. has: 6 figures, 3 tables, and 2 formulas.

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of
Metallurgy imeni Baykov)

Card 2/3

ACCESSION NR: AP4040467

SUBMITTED: 12Mar63   ATD PRESS: 3061   ENCL: 00

SUB CODE: MM   NO REF SOV: 002   OTHER: 005

Card   3/3

ESKINGER, Dragoslav
SURNAME (in caps); Given Names

Country: Yugoslavia

Academic Degrees: /not given/

Affiliation: _ not given/

Source: Belgrade, Vasiona, No 4, 1960, pp 116-118.

Data: News and Notes: "250 Yeats form the Death of the Danish Astronomer
Olaf Roemer", "One Hundred Years from the Foundings of the Tapada
Observatory /Portugal/ ", "Darkening of Sun's Edge Determined from
the Brightness Curve During the Ring Phase of the Ring Eclipse of the
Sun on April 19, 1958", "Improvements in Photography of Celestial
Bodies", "Died Ser Harold Spenser Jones", "Fifty Years from the
Death of Govani Sciaparelli."

J 9

ESKLA, L.

Rearing queen bees. p.468

SOTSIALISTLIK POLLUMAJANDUS. Tallinn, Estonia, Vol. 14, no. 10, May 1959

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 9, September 1959
Uncl.

Esko, A.V.

Stability of concrete containing carbonate gravel in the filler.
A. V. Esko, P. P. Kuz'mishchev, and P. A. Mikhalevich.
Gidrotekh. Stroitel., 24 [3] 27-29 (1955).—After 13 years, concrete in hydrotechnical structures containing up to 35% carbonate gravel in the filler was in satisfactory condition. B. Z. K.

(2)

ESKO, L.I.; YELISEYEVA, O.N.

Hydrological service of the Tartu station to commercial
organizations. Meteor. i gidrol. no.10:38-40 O '63.
(MIRA 16:11)

1. Gidrologicheskaya stantsiya Tartu, i Sektor gidrologicheskikh
prognozov Tallinskogo byuro pogody.

ES'KOV, Konstantin Andreyevich; MASLOV, Yu.A., inzh., red.; DUGINA, N.A., tekhn. red.

    [Gas welding and cutting] Gazovaia svarka i rezka. Moskva, Mashgiz, 1961. 35 p. (Nauchno-populiarnaia biblioteka ra-bochego-svarshchika, no.14)   (MIRA 15:3)
               (Gas welding and cutting)

ES'KOVA, M.P.

Comparative economic effectiveness of basing the North Atlantic herring fleet on northern and Baltic ports. Trudy sov. Ikht. kom. no.10:245-248 '60.   (MIRA 13:10)

1. Baltiyskiy nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva i okeanografii-(BaltNIRO).
    (Atlantic Ocean--Herring fisheries)
    (Russia, Northwestern--Harbors)

ESKREYS, Andrzej

POLAND

ESKREYS, Andrzej

Institute of Nuclear Research, Department VI
(Instytut Badan Jadrowych Zaklad VI), Crakow

Crakow, Postepy Fizyki Vol# No 4, 1965, pp 45-54.

"Present State of Research on Neutrino Reactions".

ACCESSION NR: AP4043036   P/0046/64/009/02-/0189/0193

AUTHOR: Bardadin, M.; Bartke, J.; Eskreys, A.; Zielinski, W.

TITLE: The emission of neutrons in π⁻–p interactions at 10 Bev

SOURCE: Nukleonika, v. 9, no. 2-3, 1964, 189-193

TOPIC TAGS: neutron emission, pi meson, proton, interaction, high
energy interaction

ABSTRACT: The emission of neutrons from high-energy interactions
was studied by scanning 32,000 photographs (from the 80-cm horizontal
beam camera) exposed to the 10-Bev π⁻ beam of the CERN accelerator.
To eliminate most of the background, events were checked against the
following criteria: 1) The angle of emission of a "neutral particle"
did not exceed 90°; 2) the distance r between the star and the apex
of "neutral·secondary interaction" did not exceed 7 cm. A sample of
74 stars associated with "neutral interactions" and situated in a
forward hemisphere of 7-cm radius was obtained. Also, "true events"

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ACCESSION NR: AP4043036

and "background" were statistically separated by their dependence on
r, with 39.6 ± 11.5 events assumed to be "true events." Two additional
criteria were used: there should be no proton among the secondary
tracks of the "primary star" and in one-prong interactions where the
observed track is a proton, also its angle with the line of flight of
the "neutral particle" should be compatible with the kinematics of an
n-p collision. The LS angular distribution of neutrons was found to
be strongly peaked forward. The momentum distribution of neutrons
was determined, then the CMS angular distribution was determined, in-
dicating an upper limit for the neutrons emitted forwards in the CMS
as $\leq$ 23%. With a probability of emission of a neutron from a star
a = 0.5 ± 0.2, neutrons are emitted in about 50% of π^--p collisions
at 10 Bev. In the discussion, M. Bardadin mentioned the occurrence
of an inelastic hyperon interaction -- an inelastic Λ° interaction
with a proton

$$p + \Lambda^\circ \rightarrow \Sigma^- + p + \pi^-.$$

Orig. art. has: 6 figures.

Card 2/3

ACCESSION NR: AP4043036

ASSOCIATION: University of Warsaw, Warsaw; Laboratory of High Energy Physics, Institute of Nuclear Research, Krakow

SUBMITTED: 07Dec63   ENCL: 00

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

Card 3/3

POLAND

ESKREYS, A.

Sixth Laboratory, Institute for Nuclear Research
(Instytut Badan Jadrowych - Zaklad VI), Crakow

Crakow, Postepy fizyki, No 3, May-June 1965, pp
257-278

"Reaction of π mesons with nuclei in the field of
accelerator energies."

FSLEGR, V.

"Shifting forces acting in the slide valves of hydraulic-copying
systems and its effect on dampers." p. 203.

STROJIRENSTVI. (Ministerstvo tezkeho strojirenstvi, Ministerstvo
presneho strojirenstvi a Ministerstvo automobiloveho prumyslu a
zemedelskych stroju). Praha, Czechoslovakia, Vol. 9, No. 3, Mar. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,
August 1959.
Uncla.

ESLINGER, YU.V. I FORTUNATOV, M.A.

25166 Eslinger, Yu.U. I Fortunatou, M.A. Ryhokhozyaystuonnaya Melioratsiya I Evolotsiya
       Lel't Amu-Dar'I I Syr-Dar'I. Ryb. Fhoz-Uo, 194., No. 8, S. 16-22

SO: Letonis' No. 33, 1949

ESLINGER, Yu.V.

BEZDENEZHNYKH, O.; KONOVALOV, P.M.; ESLINGER, Yu.V.

Controlled spawning of Aral fish. Vop.ikht. no.1:63-67 '53. (MLRA 7:6)

1. Rybovodno-biologicheskaya laboratoriya Aralrybvoda.
            (Fish culture)

ESLINGER, YU. V.

5762. Opyt po vyrashch-ivaniyu molodi seVryuri v gruntovykh basseinakh sistemy
aral'rbVola. M., Pishchepromizdat, 1954. 20s. s ill. 20 sm. (V-Vo rybnov prom-sti
SSSR. Tekhn upr. obmen peredovym tekhn. optom). 1.200 ekz. 30k.-sost. ukazary
na oborote tit. 1. -(55-1036) P. 639.3.034

SO: Knizhnaya, Letopis, Vol. 1, 1955

KONOVALOV, P.M.; ESLINGER, Yu.V.

Circular earth basins developed by the Aral Administration for Fish
Protection and Culture. Vop.ikht. no.2:97-111 '54.   (MLRA 8:5)

1. Aral'skoye upravleniye rybokhrany i rybovodstva - Aralrybvod.
   (Fish ponds)

ESLINGER, Yu.V.

Aksay-Kuvan-Dar'ya system of lakes. Trudy Lab.ozeroved. 3:67-76
'54.   (MLRA 8:2)
(Aral Sea region--Lakes)

USSR/Cultivated Plants - Fruits. Berries.   M

Abs Jour   : Ref Zhur Biol., No 18, 1958, 82478

Author   : Eslon, J.
Inst   : -
Title   : Data on the Winter Resistance of Fruit Tree Varieties in
               the Esonian Soviet Socialist Republic

Orig Pub   : Vopr. razvitiya sadovodstva v EstSSR, Tallin, Est. gos.
               izd-vo, 1957, 39-75

Abstract   : A survey of investigations on the study of winter resis-
               tance in plants is given. A report is made on the re-
               sults of the processing of data on the winter resistance
               of 214 varieties of apple tree, 46 - of pear, 13 - of
               plum and 23 - of cherry carried out by Tartusskiy Univer-
               sity. The most winter hardy varieties and the relation
               between the resistance and agricultural technique are
               pointed out.

Card 1/1

                              - 110 -

ESLON, J.

Bud grafting of stone fruits in the spring. p. 132.

SOTSIALISTLIK POLLUMAJANDUS. (Pollumajanduse ministeerium) Tallinn,
Estonia. Vol. 13, no. 3, March 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 11,
November 1959.

Uncl.

ESLON, J.

The problem of standard fruit varieties can not be dealt with formally. p. 180.

SOTSIALISTLIK POLLUMAJANDUS. Tallinn, Hungary. Vol. 13, no. 4, Apr. 1958.

Monthly List of East European Accessions (EEAI), LC, No. 4, July 1959.
Uncl.

ESLUKOV, M.

"Subject plan for agricultural research in the USSR in 1953." p. 63   (POSTEPY WIEDZY
ROLNICZEJ, Vol. 5, nol, Jan/Feb 1953, Warszawa, Poland)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of Congress
     August, 1953, Uncl.

ESMAN,

    see also   YESMAN

ESMAN, F M.

L 18069-63   EWP(q)/EWT(m)/BDS   AFFTC/ASD   JD/HW
ACCESSION NR: AP3003649   S/0133/63/000/007/0637/0638

AUTHORS: Rospasiyenko, V. I. (Engineer); Esman, F. M. (Engineer)

TITLE: Production of thick sheets from stainless steel

SOURCE: Stal', no. 7, 1963, 637-638

TOPIC TAGS: stainless steel, thick sheet

ABSTRACT: The process of preparing stainless steel sheets is described. Steel
plates (1200-1600 x 10-50 x 4000-6000 mm) were rolled in mill 2800 at the
Kommunarskiy Metallurgical Plant from slabs (1000-1250 x 120-140 x 1500-2350 mm)
supplied by the plant "Zaporozhstal'." The slabs were trimmed in the warehouse
on the trimming machine 7212 with an output of 0.3-0.4 tons/hour. They were
heated to 1180-1200C in a series of 20 to 40 pieces. Scale was removed hydrauli-
cally or scraped in the vertical stand of the mill. The rolling of stainless
steel met with no difficulties, but cutting thick sheets (22-50 mm) required
special equipment. Sheets 8-22 mm thick were cut by disk cutters. The steel
sheets were conveyed automatically into a special oven for annealing, followed
by water quenching. The annealing temperature was 1100-1150C, and the time

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L 18069-63
ACCESSION NR: AP3003649   3

interval was from 1-2.5 min/mm of sheet thickness. Subsequently, the metal sheets
were placed in a bath containing an alkaline solution (72% NaOH and 28% NaNO₃),
and kept at 450-500C for 15-35 minutes. They were then washed, pickled in sulfuric
acid (20% H_2SO_4, 5% NaCl, and 3% NaNO₃) for 8-30 minutes and white-pickled for
5 minutes in H_2SO_4--10-14% and HNO₃--5%. Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Kommunarskiy metallurgicheskiy zavod (Kommunarskiy Metallurgical
Plant)

SUBMITTED: 00   .   DATE ACQ: 02Aug63   ENCL: 00

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

Card 2/2

TESMAN, P. [?]

BC

B-2-9

Water dispersions of synthetic rubber.   A. Atanasiev and P. Kaman
(U. Rubber Ind. U.S.S.R., 1934, 665—670).—Two mixtures: (1)
natural rubber 67, synthetic rubber 33, oleic acid 12, dextrin 10,
kaolin 30, and NaOH 1.5; (2) synthetic rubber 100, oleic acid 18,
kaolin 30, dextrin 10, and NaOH 2, were dispersed. Operating
details are given. Addition of 10% of dry casein improved con-
siderably the quality of the dispersion. The dispersions kept for
2 weeks. In hot weather a small proportion of PhOH was added.
Ch. Abs. (e)

YESMAN, P.I.

30

The vulcanization of rubberized fabrics in autoclaves. P. I. Esman. *Caoutchouc and Rubber* (U. S. S. R.) 1938, No. 10, 31-6. — The optimum times of vulcanization of various grades of drum-wound rubberized fabrics were detd. by sampling the beginning, middle and end of each piece of fabric and detg. free S and swelling in C6H6. Data and curves are given.   Bernard Kilberg

A S A - 1 L A   METALLURGICAL LITERATURE CLASSIFICATION

ESMAN, P.I.

Work of the central laboratory of the Leningrad Technical Rubber
Products plant. Zav.lab.21 no.10:1267-1269 '55.   (MLRA 9:1)

1.Nachal'nik TSentral'noy laboratorii Leningradskogo zavoda rezi-
novykh tekhnicheskikh izdeliy.
(Leningrad--Rubber)(Leningrad--Chemical engineering laboratories)

ESMAN, P.I.

Dispersion of polar polymers in gasoline. Kauch. i rez. 17
no.3:20-23 Mr '58.   (MIRA 11:6)

1.Leningradskiy zavod rezinovykh tekhnicheskikh izdeliy.
            (Polymers) (Dispersion)

LAPETOV, Vasiliy Aleksandrovich; ESMAN, P.I., red.; ERLIKH, Ye.Ya.,
      tekhn.red.

      [Industrial rubber goods] Rezinovye tekhnicheskie izdeliia.
      Leningrad, Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1959. 445 p.
                                                    (MIRA 12:9)
                  (Rubber goods)

AUTHOR: Esman, P. I.   SOV/138-59-2-17. 24

TITLE: The Use of Regenerated Rubber (K primeneniyu reg. nerata)

PERIODICAL: Kauchuk i rezina, 1959, Nr 2, pp 54-55 (USSR)

ABSTRACT: The Leningrad Factory for Rubber Articles uses
             regenerated rubber in 50 formulations. The content of
             regenerated rubber varies between 10 to 560%. These
             regenerates include the R-20, R-14, R-27, R-28, R-32 and
             R-34. Reasons are given for the fall in consumption of
             regenerated rubber during the last three years, and it
             is suggested that research into new formulations should
             be carried out, that the quality of the regenerate
             should be improved and that the Laboratoriya regenerata
             (Laboratory for Regenerated Rubber) of the NIIShP should
             carry out investigations on the regeneration of rubber
             from tyres and on using regenerates in the manufacture
             of conveyor belts. A conference was convened by
             Glavrezinprom at the beginning of last year where
             improvements in the quality of conveyor belts were
             discussed and their recommendations include the use of
Card 1/2   regenerated rubber. The consumption of regenerated

The Use of Regenerated Rubber   SOV/138-59-2-17/24

rubber also decreased in the Leningrad Factory of
RTI from 34.8% in 1956 to 26.7% during 1958. It is
pointed out that a sufficient supply of activated
carbon is necessary in order to be able to use
regenerated rubber during the manufacture of conveyor
belts.

ASSOCIATION: Leningradskiy zavod rezino-tekhnicheskikh izdeliy
            (Leningrad Factory of Technical Rubber Products)

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15.6201

26990

S/138/61/000/005/004/006
A051/A129

AUTHORS: Novikov, A. S., Devirts, E. Ya., Esman, P. I., Petrova, T. K.

TITLE: The properties of soft butadiene-nitrile rubbers and the application
of these in the production of rubber articles

PERIODICAL: Kauchuk i rezina, no. 5, 1961, 20 - 26

TEXT: In the last few years, butadiene-nitrile rubber (CKH-SKN) character-
ized by a high oil- and gasoline-resistance has been widely used in the rubber in-
dustry. However, its application is difficult due to its low initial plasticity
(1,500 - 3,000 g according to Defoe) In 1955 the NIIRP began work on the produc-
tion of a soft SKN-40 rubber not requiring mastication. While testing an experi-
mental batch at the NIIRP and at the "Kauchuk" Plant, it was established that due
to the application of the soft SKN-40 rubber with a hardness of 900 - 1,300 g the
mechanical mastication stage is eliminated and the productivity of the mixing rol-
lers is increased. However, the mixture of the SKN-40 rubber with a hardness of
900 - 1,300 g cannot be produced in the rubber-mixers. During 1959 - 60 experimen-
tal-industrial batches of soft butadiene-nitrile rubbers were produced of the fol-
lowing grades: CKH-18 (SKN), SKN-26 and SKN-40. The technological process for

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The properties of soft butadiene-nitrile rubbers and...   A051/A129

the production of the soft SKN rubbers does not differ from mass-production, ex-
cepting a lower productivity of the drying unit. Experimental soft SKN rubbers were
tested at the NIIRP and at rubber article plants. All the produced experimental
batches correspond to ГОСТ 7738-55 (GOST 7738-55) for mass-production.SKN rubber in
their chemical composition and have a much lower hardness (650 - 1,000 g) than the
mass-produced rubbers (1,500 - 3,000 g). Comparison showed that experimental soft
SKN-40 rubber is almost equivalent to Perbunan 3810 in its tear resistance, resi-
dual elongation, modulus, hardness, brittle temperature, thermal aging resistance,
temperature resistance, swelling in a mixture of gasoline-benzene, and surpasses
Perbunan 3810 in its relative elongation, rupture resistance, elasticity and frost
resistance at -15°C. The experimental SKN-40 rubber surpasses also Heickar 1041
in the same indices as Perbunan 3810, and is also characterized by a much higher
rate of vulcanization and higher values of tear resistance and moduli. The experi-
mental soft rubber SKN-26 as compared to the English Heickar 1043 is characterized
by a much higher rate of vulcanization and an elevated tear resistance. Compared
to Perbunan 2810, the experimental soft SKN-26 has a somewhat higher rate of vul-
canization and almost the same tear resistance in optimum vulcanization. The soft
SKN-18 surpasses Paracryl AJ in its tear resistance and hardly differs at all from