TARAKANOV, K.N.

Historical and ecological bases of the heredity of some cereals.
Zhur.ob.biol. 15 no.6:446-459 N-D '54. (MLRA 8:5)
(HEREDITY)
(GRASSES)

TARAKANOV, K. N.

USSR/General Section - General Problems. Philosophy, Methodology A-1

Abs Jour : Referat Zhurn. Biol. No 16, 25 Aug, 1957, 67803

Author : Tarakanov, K.N.
Title : V.L. Komarov and some Concept-Theories in Biological Problems.

Orig Pub : Izv. AN SSSR, biol. ser., 1956, No 2, 9-17

Abstract : Analyzing the declarations of V.L. Komarov on fundamental problems in biology, the author concludes that Komarov considered the effect of environment the deciding factor in the origin of species, and assumed that Darvin's recognition of Malthusianism was his error and attached significance to intra-species struggle. Considering Komarov's opinion as to the gradualness of species formation incorrect, the author nevertheless considers that his outlook is in the stream of Michurin biology.

Card 1/1 - 4 -

TARAKANOV, K.N.

Vladimir Leont'evich Komarov; on the tenth anniversary of his death. Fiziol.rast. 3 no.1:95-96 Ja-F '56. (MLRA 9:5)
(Komarov, Vladimir Leont'evich, 1869-1945)

TARAKANOV, K.N.

Ecologico-historical characteristics of meristematic tissues in some northern and southern varieties of barley and wheat. Zhur. ob.biol. 20 no.1:56-60 Ja-F '59. (MIRA 12:2)

1. Institut fiziologii rasteniy.
(BARLEY) (WHEAT) (PLANT CELLS AND TISSUES)

TARAKANOV, K.N.

Cytological characteristics of the varieties of barley grown beyond the Arctic Circle. Zhur. ob. biol. 24 no.5:374-379 S-O '63. (MIRA 17:1)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR.

TARAKANOV, M.F.

[Cultivation of cigar tobaccos] Agrotekhnika sigarnykh tabakov.
Krasnodar, Kraigosizdat, 1952. 87 p. (MLRA 10:8)

1. Krasnodar, Vsesoyuznyy nauchno-issledovatel'skiy institut tabaka
i makhorki.
(Tobacco)

TARKHANOV, M. F.

Agrotekanika sigarnykth tabakov (Agrotechnology of cigar tobaccos). Krasnodar, Krasnodarskow kraevoe izdatel'stvo, 1952. 88 p.

SO: Monthly List of Russian Accessions, Vol 6, No. 3, June 1953

TARAKANOV, M. F.

Agriculture

Agrotechnology of cigar tobaccos, Krasnodar, Krasnodarskoe kraevoe izdatel'stvo, 1952

Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

SOV/149-58-6-15/19

AUTHORS: Kobakhidze, L.P. and Tarakanov, M.V.

TITLE: Economic Effectiveness of Combined Mining of the Ore Deposits of Tyrnyauz (Ekonomicheskaya effektivnost' kompleksnoy otrabotki rud Tyrnyauzskogo mestorozhdeniya)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, 1958, Nr 6, pp 130 - 135 (USSR)

ABSTRACT: The Tyrnyauz tungsten-molybdenum deposits are located in the high mountains of the Kabardino-Balkarskaya ASSR about 94 km from the town Nal'chik. It consists of a large number of ore bodies and the predominant type is Skarn. The Skarn ore consists of three types, predominantly tungsten ore, tungsten-molybdenum and predominantly molybdenum ore. As regards quantity, the first two grades predominate and form the central, very thick, part of the main Skarn body; the molybdenum ores are basically located in the North-western part. Since the character of the ore deposits is non-uniform the mining is effected simultaneously at several levels. The authors argue that since some of the molybdenum ores also contain tungsten trioxide it is necessary to take into consideration the industrial usefulness of both

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SOV/149-58-6-15/19

Economic Effectiveness of Combined Mining of the Ore Deposits of Tyrnyauz

these ore elements when determining the minimum percentage for which exploitation is an economic proposition. A cross-sectional sketch is given of the deposits. From 1952 onwards the Tyrnyauz Beneficiation Works processed ore charges which contain 25% hornstone. In 1959/60 a hydro-metallurgical works is to be put into operation in Nal'chik which will process the output of the Tyrnyauz Beneficiation Plant and it is expected that then the extraction of metals from the Tyrnyauz ores will increase by 5 to 10%. The authors argue that the supply position of tungsten in the Soviet Union is good enough to allow a certain drop in the output of tungsten concentrates in the Tyrnyauz Combine in favour of avoiding irreversible loss of large quantities of poor but industrially valuable molybdenum bearing hornstone.

Card 2/3

SOV/149-58-6-15/19

Economic Effectiveness of Combined Mining of the Ore Deposits of Tyrnyauz

There are 2 figures and 1 table.

ASSOCIATION: Moskovskiy institut tsvetnykh metallov i zolota. Kafedra organizatsii i planirovaniya predpriyatiy (Moscow Institute of Non-ferrous Metals and Gold. Chair for Organising and Planning of Undertakings)

SUBMITTED: January 28, 1958

Card3/3

KOBAKHIDZE, L.P.; TARAKANOV, M.V.

Economic efficiency of complete processing of Tyrnyauz deposit ores. Izv.vys.ucheb.zav.; tsvet.met. no.6:130-135 '58.

(MIRA 12:2)

1. Moskovskiy institut tsvetnykh metallov i zolota, kafedra organizatsii i planirovaniya predpriyatiy.

(Tyrnyauz--Ore deposits)
(Ore dressing)

TARAKANOV, N.A., starshiy inzh.

Using the interference method of checking ellipsoids of revolution by means of parabolic lenses. Izv. vys. ucheb. zav.; prib. 3 no. 1:97-104 '60. (MIRA 14:5)

1. Leningradskiy institut tochnoy mekhaniki i optiki. Rekomendovana kafedroy optiko-mekhanicheskikh priborov.
(Optical measurements)

24(4)
28(5)

S/146/60/003/01/013/016
D002/D006

AUTHOR: Tarakanov, N.A., Senior Engineer

TITLE: An Interferential Method for Checking Rotation Ellipsoids by Means of Parabolic Lenses

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, Vol 3, 1960, Nr 1, pp 97-104 (USSR)

ABSTRACT: This is a theoretical investigation of the checking of rotation ellipsoids by means of convex parabolic lenses. The numerical determination of the theoretical value of the interferential image obtained when the test glass is placed at a corresponding point of the checked object is explained. The derivations obtained by Professor M.M. Rusinov, are also used for the calculations. The proposed method can be used for concave rotation ellipsoids only, its accuracy depending on the accuracy of the parabolic test glass as well as on the accuracy with which the test glass zone center and the ellipsoid point to be checked are superimposed. The article was recommended by the Kafedra optiko-mekhanicheskikh priborov

Card 1/2

S/146/60/003/01/013/016
D002/D006

An Interferential Method for Checking Rotation Ellipsoids by Means of Parabolic Lenses

(Chair of Optical-Mechanical Devices). There are 5 graphs, and 4 tables.

ASSOCIATION: Leningradskiy institut tochnoy mekhaniki i optiki (Leningrad Institute of Precision Mechanics and Optics)

SUBMITTED: January 5, 1960

Card 2/2

TARAKANOV, N.A.

Checking parabolic lenses with the IZS-7 spherometer. Izv.vys.ucheb. zav.; prib. 3 no.4:85-91 '60. (MIRA 13:9)

1. Leningradskiy institut tochnoy mekhaniki i optiki. Rekom. kafedroy optiko-mekhanicheskikh priborov.
(Optical measurements)

MARTINEVSKIY, I.L.; SHASHAYEV, M.A.; TARAKANOV, N.F.; SHAPOVALOV, A.T.

Fate of plague bacteriophage in the organism of healthy and plague-infected greater gerbils and the possible passage of its transmission under experimental conditions. Zhur. mikrobiol. epid. i immun. 40 no.5:31-34 My '64. (MIRA 17:6)

1. Iz Sredneaziatskogo nauchno-issledovatel'skogo protivochumnogo instituta Ministerstva zdravookhraneniya SSSR.

TARAKANOV, Nikolay Grigor'yevich; ANOKHIN, P.K., prof., red.; KOZLOV, N.S., red.; CHISTYAKOVA, K.S., tekhn.red.

[I.P.Pavlov, the great Russian thinker and materialist] I.P.Pavlov - velikii russkii myslitel' - materialist. Pod red.i s pred.P.K.Anokhina. Moskva, Izd-vo Mosk.univ., 1960. 86 p. (MIRA 13:11)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Anokhin).
(Pavlov, Ivan Petrovich, 1849-1936)

SLIVINSKIY, [illegible], inzh.; TARAKANOV, O.D., inzh.

Systems of exterior electric power supply for traction substations.
Transp. stroi. 15 no.5:9-10 My '65.
(MIRA 18:7)

SLIVINSKIY, V.V., inzh.; TARAKANOV, O.D., inzh.

Longitudinal electric power supply for areas electrified by alternating current. Transp. stroi. 15 no.11:8-10 N '65.
(MIRA 18:11)

[illegible]

USSR / Liquids

D-8

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9086

Author : Ryabov, A.V., Tarakanov, O.G., Khurtin, L.I.

Title : Magnetic Viscosimeter-Dilatometer.

Orig Pub : Zavod. laboratoriya, 1956, 22, No 9, 1111-1112

Abstract : Description of a magnetic viscosimeter-dilatometer for the observation of the course of polymerization of vinyl compounds. The depth of transformation is determined from the reduction in the volume V of the system, and the viscosity η is calculated from the time required for a ball to fall between specified levels. V is measured with an accuracy 0.03 -- 0.04 percent, the accuracy of η is 5 per cent in the range from 10 to 10^5 poise. Data are obtained for η of methyl metacrylate as a function of the depth of polymerization.

Card : 1/1

AUTHOR: RYABOV, A.V., TARAKANOV, O.G.

32-6-36/54

TITLE: Dilatometric Equipment for the Investigation of Polymerization Kinetics. (Dilatometricheskaya ustanovka dlya issledovaniya kinetiki polimerizatsii, Russian)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol 23, Nr 6, pp 746 - 748 (U.S.S.R.)

ABSTRACT: The principle component of the equipment for the purification of the monomer from air is an ampule from which the monomers are led into the dilatometer. The monomer to be investigated is put into an ampule and a reception device is inserted into the air-filled Duar vessel. After the faucet is opened a vacuum pump is set in operation. The monomer is transferred into the reception device, after which the faucet is turned off and the reception device is taken out of the Duar vessel. The ampule is then placed into the vessel and the monomer is transferred from the reception device into the ampule. The monomer is protected against the influence of air by mercury, which is transferred from the 5th to the 1st ampule. The investigation ended with the transfer of the monomer from ampule 1 into the reaction ampules of the dilatometer.

ASSOCIATION: State University "Gorkiy".

PRESENTED BY:

SUBMITTED:

AVAILABLE: Library of Congress

Card 1/1

5.3831

66989
SOV/81-59-13-48341

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 13, p 575 (USSR)

AUTHORS: Tarakanov, O.G., Ryabov, A.V.

TITLE: The Copolymerization of Methylmethacrylate With Methacrylic Acid

PERIODICAL: Tr. po khimii i khim. tekhnol., 1958, Nr 2, pp 270 - 272

ABSTRACT: For a mixture of monomers of 85% methylmethacrylate (I) and 15% of methacrylic acid (II) the exponential temperature dependence of the initial and maximum copolymerization rate as well as of the time of copolymerization have been established. The total energy of activation of the initial process of copolymerization is equal to 17.5 kcal/mole. The initial polymerization rate depends linearly on the concentration of benzoyl peroxide in the power of 1/2. With an increase in the content of II in a mixture with I from 0 to 0.225 molar parts the polymerization rate increases. An increase in the content of II from 0 to 0.322 molar parts results in a linear increase of the maximum polymerization rate.

4

Card 1/1

M. Leonov

5(3,4)

AUTHORS: Ryabov, A. V., Tarakanov, O. G. SOV/153-58-4-19/22

TITLE: Change of the Viscosity of a Reaction System During the Block Polymerization of Methyl Methacrylate in Methacrylic Acid (Izmeneniye vyazkosti reaktsionnoy sistemy v protsesse blochnoy polimerizatsii metilmetakrilata s metakrilovoy kislotoy)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 112 - 116 (USSR)

ABSTRACT: The viscosity properties of the reaction medium are constantly changed during the polymerization of the monomers. The viscosity-mechanical properties of the system are one of the main factors that influence the reaction velocity especially in the late stages of the polymerization (Refs 1-5). The methyl methacrylate polymerization in the presence of benzoyl peroxide is considerably accelerated beginning from about a 20% transformation (Ref 6). Also the polarization degree increases (Ref 7). The latter phenomenon (the so-

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called Trommsdorff or gel effect,Ref 8) is connected with the radical break constant decrease, if the medium is sufficiently viscous. Although several recent papers prove the dependence of the life of free radicals on the thoroughness of the polymerization, the alteration of viscosity has never been controlled (Refs 8-16). The authors of the present paper intended to investigate the process mentioned in the title of the mixtures of methyl methacrylate (MMA) with methacrylic acid (MAA) to the highest possible degree of transformation. It was interesting to determine the viscosity corresponding to the beginning of the reaction acceleration. Already earlier (Ref 17), the authors described a magnetic viscosimeter-dilatometer (Fig 1) which considerably simplifies the complex and long operations in the study of the said problem. Figures 2 and 3 show the curves of the dependence of the viscosity logarithm in poise units on the thoroughness of the transformation of the monomeric mixture consisting of

Change of the Viscosity of a Reaction System During the Block Polymerization of Methyl Methacrylate in Methacrylic Acid SOV/153-58-1-19/32

85% MMA + 15% MAS, or of 82% MMA + 18% MAS, respectively at 55-60°. Figure 4 shows the curves of the alterations of viscosity during the [illegible] polymerization in the case of different compositions of the initial monomeric mixture. As may be seen herefrom the viscosity of the systems in polymerization increases with the increase of the MAA part in it. This increase is apparently connected with the increase of the potential barrier, or in other words, with the decreasing elasticity and mobility of the macromolecules at the expense of the polar MAA molecules. Hydrogen bonds between the carboxyl groups are formed there. To determine the viscosity corresponding to the initial acceleration the curve is used that characterizes the reaction velocity (Fig 5). It could be proved that the reaction acceleration corresponds to the viscosity values between 100 and 500 poise units. Within this range the diffusion rate is then considerably decreased. Figure 6 shows the curve of the dependence of the polymerization initial velocity

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Change of the Viscosity of a Reaction System During SOV/153-58-4-[illegible]/22
the Block Polymerization of Methyl Methacrylate in Methacrylic Acid

on the temperature. Empirical equations are mentioned for this curve (3) as well as for the full activation energy of the copolymerization. There are 6 figures and 18 tables, 4 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosuniversitete im. N.I.Lobachevskogo (Scientific Research Institute of Chemistry at Gor'kiy State University imeni N.I.Lobachevskiy) Kafedra kolloidnoy khimii (Chair of Colloid Chemistry)

SUBMITTED: November 1, 1957

Card 4/4

SOV/81-59-10-37457

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 10, p 577 (USSR)

AUTHORS: Ryabov, A.V., Tarakanov, O.G.

PERIODICAL: The Copolymerization of Methylmethacrylate With Butylacrylate

ABSTRACT: The kinetics of combined polymerization of methylmethacrylate (I) with butylacrylate (II) at 60°C has been investigated; the initiator was benzoyl peroxide. The initial polymerization rate of a mixture of the composition 85% I and 15% II is proportional to the square root of the concentration of the initiator. Equations of polymerization rate have been derived for three cases: 1) the initiation takes place mainly at the expense of I; 2) the initiation takes place mainly at the expense of II, 3) the initiation takes place both at the expense of I and II approximately in an equal degree. The experimental results obey well the equation of I. From the data on the composition of polymers the constants of the combined polymerization $r_1 = 1.54$, $r_2 = 0.5$ have been calculated. The results of the calculation of the integral composition of the polymer and the distribution of monomer links in polymer molecules are cited.

A. Pravednikov

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5.3831

5(3)

67847
S/153/59/002/06/025/029
B115/B000

AUTHORS: Ryabov, A.V., Guseyev, V.V., Tarakanov, O.G.

TITLE: II. The Change in Viscosity of the Reaction System During Bulk Polymerization of Methyl Methacrylate With Methacrylic Acid

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 6, pp 954-955 (USSR)

ABSTRACT: This paper is devoted to the investigation of the viscosity during bulk polymerization of methyl methacrylate (MMA) and its mixture with methacrylic acid (MAA) in dependence on the content of various initiators in the monomer mixture. The azodinitrile of isobutyric acid (ADNB), the azodinitrile of 2,4-dimethyl valeric acid (ADNV), benzoyl peroxide (BP), and diacetyl (DA) were used as initiators. Values obtained for the initial polymerization rate of MMA in the presence of the initiators mentioned are given (Table). A diagram representing the dependence of the initial rate for the polymerization of a monomer mixture consisting of 85% MMA and 15% MAA on the ADNB concentration is also given (Fig 1), from which the linear dependence of the initial polymerization rate on the square

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II. The Change in Viscosity of the Reaction System During Bulk Polymerization of Methyl **Methacrylate** With Methacrylic Acid

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B115/B000

root of the ADNB concentration may be seen. In additional figures (Figs 2 and 3), the dependence of the logarithm of viscosity on the conversion degree of MMA and its mixture with 15% MAA in the presence of various initiators is given. The change of the viscosity for a monomer-polymer mixture consisting of 85% MMA and 15% MAA in dependence on the conversion degree is also investigated for various concentrations of the initiator ADNB (Fig 4). From the table and the figures, it may be seen that the viscosity of the polymerization system corresponding to a defined conversion degree decreases with the increase in activity and the concentration of the initiator, respectively. The shapes of the curves logarithm of viscosity conversion degree of the polymerization system depend only little on the initiator used and its concentration. It was shown by an analysis of the curves of the change of the polymerization rate as well as of the curves of the change of viscosity of the reaction system (Ref 1) that the viscosity for MMA and its mixture with 15% of MAA corresponding to the gel effect is 100 to 500 P, and does not depend on the com-

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II. The Change in Viscosity of the Reaction System During Bulk Polymerization of Methyl Methacrylate With Methacrylic Acid

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position of the initiator and its concentration. The authors thank docent Ye.I.Fedotova for the ADNV put to their disposal for the experiments. There are 4 figures, 1 table, and 2 Soviet references.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet imeni N.I.Lobachevskogo, kafedra vysokomolekulyarnykh soyedineniy (Gor'kiy State University imeni N.I.Lobachevskiy, Chair of Macromolecular Compounds)

SUBMITTED: September 11, 1958

Card 3/3

87650

S/191/60/000/012/011/016
B020/B066

15 8460

AUTHORS: Vasil'yev, B. V., Tarakanov, O. G.

TITLE: Study of Adhesion of Foam Plastics. Report No. 1. Adhesion of Foam Polyepoxide and Foam Polystyrene to Metals

PERIODICAL: Plasticheskiye massy, 1960, No. 12, pp. 38 - 41

TEXT: The purpose of the present paper was an investigation of the adhesive strength of foam plastics on the basis of the ЭД-6 (ED-6) epoxy resin, and of foam polystyrene to steel, bronze, and aluminum. The authors used the cone method, i.e., a cone was ground from a metal bar with a diameter of 7 - 8 mm, which had a generatrix of about 20 mm and an angle of 8 - 10°. To test the adhesion of epoxy foam plastics, the cones were suspended on a steel wire above a sheet mold in which the compound intended for foaming was poured (Fig. 1). It consisted of a mixture of ED-6 epoxy resin with metaphenylene diamine as hardener. Diisobutyric acid azo-dinitrile was used as foaming agent. The force required to withdraw the cone from the foam plastic was determined on a tearing machine of the РМ-2 (RM-2) or РМ-250 (RM-250) type at a rate of

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87650

Study of Adhesion of Foam Plastics. Report
No.1. Adhesion of Foam Polyepoxide and Foam
Polystyrene to Metals

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B020/B066

50 mm/min. The dependence of the adhesive strength of the foam plastic on its weight by volume was first studied (Fig.2). Fig.3 shows the dependence of the adhesive strength of an epoxy resin foam plastic to steel on the number of heating cycles. It may be seen that the strength of the boundary layer gradually drops with increasing number of heating cycles. To determine the adhesive strength of polystyrene foam to a steel surface, polystyrene granules obtained from the NIIPP (= Nauchno-issledovatel'skiy institut plasticheskikh produktov = Scientific Research Institute of Plastics) were used. Foaming was carried out in closed steel molds (Fig.4). The dependence of the adhesive strength of Styropor on the weight by volume (Fig.5) and on the temperature of foaming (Fig.6) was investigated. Foaming was made at 125°C for 1 hour. The character of the withdrawal of the cone from the foam plastics is related to the structure of the epoxy resin foam plastic at the interface with the metal. In all experiments, a very thin epoxy resin film was found to be formed on the cone. It covers the whole surface of the cone and, therefore, the adherend of the film is considerably larger than the cross section of the bubble walls at the interface. The structure of foam at

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Study of Adhesion of Foam Plastics. Report No.1. Adhesion of Foam Polyepoxide and Foam Polystyrene to Metals

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the interface differs from that in the interior of the foam plastic. The bubbles of an epoxy resin foam with a weight by volume of 0.05 - 0.13 g/cm^3 are larger at the interface than in the interior (Fig.8, a and b). The lighter the foam plastic, the greater is this difference. At a weight by volume of more than 0.13 g/cm^3, the size of bubbles is the same at the interface with the metal and in the interior (Fig.9, a and b). The adhesive strength of epoxy resin foam plastic decreases with the weight by volume, while that of polystyrene foam increases linearly with it. With increasing temperature of foaming, the adhesive strength first increases and then drops. The maximum of the curve in Fig.6 lies at 125°C. There are 9 figures and 4 Soviet references.

X

Card 3/3

37309
S/169/62/000/004/093/103
D290/D302

3,1810

AUTHOR: Taranova, O.G.

TITLE: The absolute photometry of the spectra of aurorae and the night sky

PERIODICAL: Referativnyy zhurnal. Geofizika, no. 4, 1962, 23, abstract 4G141 (V sb. Spektr. elektrofotometr. i radiolokats. issled. polyarn. siyaniy i svecheniya nochn. neba. no. 6, M., AN SSSR, 1961, 28-30)

TEXT: It is possible to measure the absolute intensity of radiation very accurately by simultaneously using a spectrograph and a calibrated photometer. Aurorae were studied using the spectrographs СП-48 (SP-48) and СП-50 (SP-50) during February and March, 1960, at the Loparsk station (near Murmansk); electrophotometric measurements were made simultaneously. The electrophotometer was calibrated using moonlight on a night when the atmosphere was very clear; therefore, the conditions were very similar to the conditions during the measurements of the aurorae and the night sky. The spectrograph was calibrated in relative units using a standard lamp and a

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The absolute photometry of the ...

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magnesium oxide diffusion screen. Measurements were made between 10000 - 12000 Å and 4800 - 6000 Å on March 15-16 and on March 31. The SP-50 spectrograph was used on March 15-16; the photometer recorded radiation from the zenith using a filter at 5577 Å. The OH bands (9-5), (4-1), and (5-2) were observed in the 10000 - 12000 Å range. The SP-48 spectrograph was used on March 30-31; the photometer recorded radiation from the zenith during all the exposures. The spectral intensity distribution was expressed in terms of the emission at 5577 Å. The absolute intensity of the radiation from the zenith passed by the 5577 Å filter was determined by integrating the area under the electrophotometric record. The absolute spectrographic intensities are found by comparing the spectrograph and photometer records that have been taken simultaneously; thus the energy distributions of the spectra are measured with high resolution. The absolute intensities of the lines at 5004, 5200, 5228, 5632, 5680, and 5958 Å, and of the bands Q(5-2) and Q(4-1) were measured by this method. [Abstractor's note: Complete translation].

Card 2/2

TARAKANOV, O.G.; GUSEV, I.G.

Using thermistors in determining molecular weights. Plast.massy no.11:47-48 '61. (MIRA 14:10)

(Molecular weights—Measurement)
(Transistor circuits)

32360
S/191/62/000/001/005/006
B139/B110

15.8460

AUTHORS: Tarakanov, O. G., Demina, A. I., Vasil'yev, B. V.

TITLE: Research into the adhesion of foam plastics. Communication II. Adhesion properties of foam polyurethan and foam polystyrene

PERIODICAL: Plasticheskiye massy, no. 1, 1962, 41-43

TEXT: The dependence of the adhesive power of foam plastics to metals on temperature, cleanness of the metal surface, and duration of foaming was investigated. For this purpose, foam polystyrene specimens with an embedded metal cone were heated in a thermostat for 30 min, the cone was then torn out, and the stress per cm^2 of metal surface was measured. The maximum adhesive power (~ 3 kg/cm^2) sharply decreased above 70°C. The adhesive power of the plastics on metal was largely influenced by the duration of foaming. The optimum foaming time must be specially determined for each case and probably depends on the foaming agent content of the initial material. Both in the presence and absence of an oxidation layer on the cone surface, the adhesion of the plastics is stronger than

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Research into the adhesion ...

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their cohesion. Polystyrene is assumed to adhere to the oxidized metal surface by means of covalent binding between carbon and the metal ion of the oxidized surface. In the case of foam polyurethan, the adhesive power increased linearly with increasing volume weight. Foam plastics with a volume weight of up to 0.14 g/cm^3 showed tearing off from all metal surfaces investigated due to cohesion; plastics with a higher-volume weight showed mixed tearing off. The specimens were also heated to 150°C in a two-hour cycle, or constantly for 3, 6, 9, or 12 hrs. Even a 12-hr heating did not reduce the adhesive power (10.0 kg/cm^2 at 0.12 g/cm^3 volume weight), nor did several days' storage of specimens in distilled water. Finally, the conical metal cores were moistened with water before being cast in with plastics (foam polyurethan), and the filled molds were then left for 1 hr at 70°C, did not impair the adhesive power. Cleaning of the metal core may be restricted to polishing with emery and rinsing with hot acetone. Foam polyurethan was prepared by formula no. 3 of the Fiziko-khimicheskaya laboratoriya Vladimirskogo NIIS (Physicochemical Laboratory of the Vladimir NIIS). There are 3 figures, 3 tables, and 5 references: 3 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: B. A. Dombrow, Polyurethanes, ch. 3, Reinhold Publishing Corp., U.S.A., 1957; J. E. Rutzler, Adhesives Age,

X

Card 2/3

32360
S/191/62/000/001/005/006
B139/B110

Research into the adhesion ...

2, 7, 28 (1959).

X

Card 3/3

S/191/62/000/003/003/010
B101/B147

AUTHORS: Sokolova, D. F., Tarakanov, O. G.

TITLE: Gelatinization of polyvinyl chloride pastes

PERIODICAL: Plasticheskiye massy, no. 3, 1962, 5-7

TEXT: In connection with the problem of production of foamed plastics, the authors studied the gelatinization of the polyvinyl chloride (PVC) resins Igelit F and P (Eastern Germany), Vestolit P (Federal Republic of Germany), and the Soviet type M(M), as well as of vinyl chloride (VC) copolymers with (10-15%) acrylonitrile (I); methacrylic acid (II); methacrylate (III); or vinyl acetate (IV). These copolymers were synthesized by emulsification in aqueous phase at 12 atm, 60°C, for 10 hrs. The total monomer-to-H_2O ratio was 1:3, ammonium persulfate served as initiator (0.5% by weight of the monomers); MK (MK) emulsifier (0.5% by weight of the aqueous phase) was used since gelatin yielded poorly soluble copolymers. VC copolymers with I and II were unsoluble in dioctyl phthalate (DOP). A 10% paste of the other resins in DOP was heated, the viscosity, η, versus temperature was plotted, and maximum viscosity was

Card 1/2

Gelatinization of polyvinyl ...

S/191/62/000/003/003/010
B101/B147

determined as gelatinization temperature. The temperature at which transparency occurred was also measured. For commercial resins, the gelatinization temperature was 112-129°C, for the copolymer with III 81°C, for the copolymer with IV 60°C. Also in tricresyl phosphate, the gelatinization temperature of the VC + IV copolymer was about 50°C below that of pure PVC. The gelatinization temperature of commercial PVC showed a direct dependence on the molecular weight: it increased with increasing viscosity of the 1% solution in dichloro ethane. On Igelit F reprecipitated from dichloro ethane by methanol and dried at different temperatures, and increase in gelatinization temperature (by 28°C) was observed at elevated drying temperature. The decrease in gelatinization temperature of Igelit dried at 170°C is explained by structural changes. There are 2 figures, 4 tables, and 7 references: 3 Soviet-bloc and 4 non-Soviet-bloc. The reference to the English-language publication reads as follows: Aimi Misanori, Japan Plast., 2, no. 4, 14 (1958).

Card 2/2

S/191/62/000/004/003/017
3110/B138

5.3630

AUTHORS: Orlov, V. A., Tarakanov, O. G.

TITLE: Polymerization of di-β,β'-chloro-ethyl ester of vinyl phosphinic acid

PERIODICAL: Plasticheskiye massy, no. 4, 1962, 6-8

TEXT: The kinetics of the block polymerization of $CH_2=CHP(O)(OC_2H_4Cl)_2$ (I) was studied. The fraction used was produced at 140-143°C 2-3 mm Hg, $d_4^{19} = 1.3196$, $n_D^{19} = 1.4780$; the initiators benzoyl peroxide (II), azoisobutyric acid dinitrile (III), isopropyl benzene hydroperoxide (IV), lauryl peroxide (V), tertiary butyl peroxide (VI) were fresh. $P = K\Delta V$, where P = polymerization depth, %; ΔV = reduction in volume of the polymerizing system as percentage of initial value; K = coefficient. $K \approx 8$ according to the polymer yield. Maximum polymer yield was 70-85 % with the catalysts mentioned. The polymerization rate is at first constant, decreasing from a certain depth of conversion. Air accelerates it.

X

Card 1/3

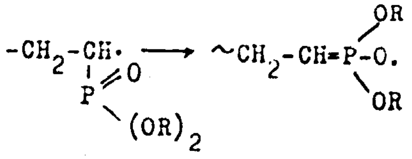
S/191/62/000/004/003/017
B110/B138

Polymerization of di-β,β'-chloro-ethyl...

Depending on the test conditions, a viscous, resinous substance, or an insoluble, elastic, yellow product, is formed. Repeated precipitation from a solution of the resinous substance in acetone by means of diethyl ether, will separate the polymer as a solid, brittle, white, strongly hygroscopic substance which is soluble in polar organics. The ebullioscopically measured molecular weight was 2700, that of the polymer isolated at 5-8 % conversion depth, 1200. 21-hr fractionation of the resin at 110°C in the presence of 4.44 % by weight of VI yielded four fractions with specific weights of 13.2-40.6, specific viscosities of 0.096-0.335 (5 % acetone solutions), and molecular weights of 1900-6000. The softening temperature, determined thermomechanically, was ~50°C. The $\log v_{in} = -6640/T + 17.436$ holds for polymerization of I with III. The activation energy of polymerization of I was 30.4 kcal/mole. For polymerization of I with III: $v_{in} = 0.105\sqrt{C} - 0.00198$, where C = initiator concentration in molar parts. The presence of 0.1-0.7 % water reduces the rate of polymerization several times. It is suggested that the low molecular weights of polymeric esters of vinyl phosphinic acid are

Card 2/3

probably due to the rapid breaking of the growing chain. According to C. Arcus, R. J. S. Matthews (see below), this occurs as follows:



The stable radical may also develop owing to reaction of the growing radical with -OR. There are 4 figures and 2 tables. The most important English-language reference reads as follows: C. Arcus, R. J. S. Matthews, J. Chem. Soc., 4607 (1956).

38062

S/191/62/000/006/009/016
B110/B138

15.8140

AUTHORS: Polyakov, Yu. N., Tarakanov, O. G.

TITLE: Physicomechanical properties of elastic foam polyurethane. Communication I. Dependence of relaxation properties of elastic foam polyurethane on the temperature

PERIODICAL: Plasticheskiye massy, no. 6, 1962, 34-36

TEXT: The effect of various temperatures on the relaxation properties of foam polyurethane (32-35 kg/cm^3), obtained according to ВТУ No 188-60 (VTU No 188-60) from compound esters and toluylene diisocyanate, was investigated. A cylindrical sample, 20 mm high 30, mm diameter, was deformed to 50% of the initial height. The stress relaxation curve was then determined between -30 and 145°C for 1 hr. The initial stress σ_0 from 20 to ~145°C hardly depends on temperature, but increases very strongly at negative temperatures. For the sample with 50% deformation ($\sigma_1 = \sigma_0 - \sigma_{1\ hr}$), the rate of relaxation is constant at 20-100°C, between 100 and 120°C it increases by two to three times and then remains

Card 1/3

Physicomechanical properties.. S/191/62/000/006/009/016
B110/B138

constant up to 145°C. When the sample was deformed for 1 hr, the recovery capacity of foam polyurethane between 100 and 120°C dropped from 85-90% to 8-4%. Residual deformation ε_{res} increased between 100 and 120°C from 3-5% to 90-96%. Since no changes existed in the unloaded state, the change in the elastic properties of foam polyurethane takes place only after longer loading, and thus has a relaxation character. Foam plastics from polyurethane can not, therefore, be used as elastic parts, but are suitable for heat insulation up to higher temperatures. When foam polyurethane is cooled below 20°C, the stress change increases too. Result: (1) At low temperatures, the relaxation rate increase is not based on changes in the polymer, but on the increase of the total stress due to reduced mobility of the macromolecules. (2) No irreversible changes are found up to liquid nitrogen temperature. (3) When elasticity is lost at >100°C, internal, irreversible processes take place. This is proved by the change of the "relative" relaxation rate and increase of the irreversible deformation. It is assumed that rupture of the primary valency bondr occurs through oxygen in the air, and the radicals formed here are bonded across oxygen bridges. This strengthens the lattice and

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Physicomechanical properties..... S/191/62/000/006/009/016
B110/B138

causes high residual deformation. The same presumably takes place during aging, but at a much lower rate. Foam polyurethane can only be used as shock absorber between -33 and -35°C. There are 5 figures.

Card 3/3

POLYAKOV, Yu.N.; TARAKANOV, O.G.

Physicomechanical properties of elastic foam polyurethan. Temperature dependence of the deformation properties of elastic foam polyurethan. Plast.massy no.7:45-48 '62. (MIRA 15:7)
(Urethans)
(Polymers—Testing)

39638
S/191/62/000/008/008/013
B124/B180

15.8050

AUTHORS: Tarakanov, O. G., Krasnoperova, A. V.

TITLE: Foaming of polyvinyl chloride pastes. Study of factors affecting the foam structure

PERIODICAL: Plasticheskiye massy, no. 8, 1962, 30-33

TEXT: Investigation was made into the foaming of pastes based on Igelit-F PVC emulsion with dioctyl phthalate (DOP) plasticizer mixed, at a weight ratio of 100:200, for 30 min at room temperature. At 40°C viscosity was $\sim$100 cP. The best foam structure is achieved with a resin containing 0.5% and DOP with 0.7% H_2O, and viscosity between 250 and 400 cP. Slower heating produces better structures. The resin in the plasticizer must swell to the maximum for PVC foam pastes. Dry CO_2 and dried paste components will retard the increase in viscosity and improve foaming; which starts at 130 instead of 250 cP. The following surfactants were tested: Ufapast O sodium sulfonate, sodium sulfonol НП-1 (NP-1), emulsifier МК (MK), fluoroester (ester of glycerin and fluoric acid telomers), and a soy phosphatide. The surfactant was dissolved in the

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Foaming of polyvinyl chloride ...

S/191/62/000/008/008/013
B124/B180

plasticizer at a weight ratio of 3 : 100, and mixed with the resin. When these surfactants were added to a paste of unrefined dry resin and dry plasticizer, the structure of the foams was only altered at low viscosities. Foaming with surfactants was much improved when the resin was first washed several times in 1% NaOH and distilled water and dried at 60°C to constant weight. V. I. L'vova and A. G. Oshuyev are thanked for supplying the fluoroester. There are 6 figures. The English-language reference is: M. F. Fuller, Ind. Eng. Chem., No. 4, 730 (1957).

Card 2/2

37432

S/190/62/004/005/005/026
B110/B144

5.5600

AUTHORS: Tarakanov, O. G., Okunev, P. A.

TITLE: Chromatographic fractionation. I. Modified column for polymer fractionation

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 5, 1962, 683-689

TEXT: The chromatographic column was modified to develop a new method of polymer introduction. Pure solvent and precipitant are filled into 1 and 3, respectively (Fig. 1). Pure solvent runs from 1 into 3 at the same rate as the solution flows out of the column, to enrich the solvent in the mixture in 3. The polymer is filled into 7. First, 7 is filled with the precipitant and heated to boiling to mix the solution thoroughly. The amount of dissolved high-molecular fractions increases as the amount of solvent in the mixture increases. A certain solvent level in 7 is maintained by 11 with a photorelay and a hollow, colored glass sphere. When the level is reached, the photorelay interrupts the solenoid current, magnetic cock 5 stops the supply into 7. The air in the solvent is removed

Card 1/3

Chromatographic fractionation ... S/190/62/004/005/008/026
B110/B144

through three-way cock 10. Glass cylinder 13 (~ 35 cm long; outside diameter 25 mm) has a Schott filter soldered to its bottom. The packing washed with distilled water is boiled in the solvent for 2-3 hrs, and the column is filled with liquid. Copper shell 12 (diameter: 25 mm, wall thickness: 7 mm) guarantees a continuous temperature drop along the column which is heated at the top with heating coil 8 (60-80 v) and cooled at the bottom. A simplified unit without packing (Fig. 2) is less efficient. However, it allows the use of larger amounts and elimination of polymer destruction by working without packing. The columns were used to determine the integral curves for the viscosity of cellulose triacetate (methylene chloride - heptane, flow rate 5-10 ml/hr, time of fractionation ~ 4 days) and the efficiency of this method was proven. There are 3 figures.

ASSOCIATION: Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh smol (Vladimir Scientific Research Institute of Synthetic Resins)

SUBMITTED: March 24, 1961

Card 2/6

Fig. 1. Unit for polymer fractionation. Legend: (1) Solvent container; (2) connecting tube; (3) mixer; (4) solenoid; (5) magnetic cock; (6) reflux condenser; (7) vessel for polymer dissolution; (8) heating coil; (9) Schott filter; (10) discharge pipe with three-way cock; (11) discharge tube with floating hollow sphere; (12) copper shell; (13) column; (14) magnetic stirrer; (15) contact thermometer; (16) control thermometer.

Fig. 2. Column without packing for polymer fractionation. Legend: (1) Solvent container; (2) mixer; (3) reflux condenser; (4) dropping tube; (5) vessel for polymer dissolution; (6) Schott filter; (7) contact thermometer; (8) control thermometer; (9) heating coil; (10) aluminum shell; (11) column.

TARAKANOV, O.G.; VASIL'YEV, B.V.; PEREPECHKIN, L.P.; ZASPINOK, G.S.

Nature of the contamination of the solutions of cellulose triacetate. Khim. volok. no.3:43-46 '63. (MIRA 16:7)

1. Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh smol.

(Cellulose acetates)
(Textile fibers, Synthetic)

OKUNEV, P.A.; TARAKANOV, O.G.

Fractionation of cellulose triacetate in a modified column. Khim.volok no.6:44-46 '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov, g. Vladimir.

KOLPAKOV, S.V., inzh.; TAKUNOVA, S.T., inzh.; TARAKANOV, O.G., inzh.

Properties of rigid foamed polyurethanes. Stroi. mat. 9 no.5: 39-40 My '63. (MIRA 16:7)

(Urethanes—Testing)

TARAKANOV, O.G.; YEREMINA, Ye.G.; Prinimali uchastiye: GALANTSEVA, S.S., laborant; ZHUKOVA, V.Ya., laborant

Foaming in nonaqueous solutions. Part 1: Selection of frothing agents for plasticizers. Koll.zhur. 25 no.5:596-599 S-O '63. (MIRA 16:10)

1. Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh smol.

ACCESSION NR: AP4039940 S/0191/64/000/006/0006/0009

AUTHOR: Orlov, V. A.; Tarakanov, O. G.

TITLE: Copolymerization of di- , '-chloroethyl ester of vinylphosphonic acid.

SOURCE: Plasticheskiye massy*, no. 6, 1964, 6-9

TOPIC TAGS: vinylphosphonic acid ester copolymer, copolymerization, vinylphosphonate methacrylic acid copolymer, vinylphosphonic ester styrene copolymer, vinylphosphonate allyl alcohol copolymer, polymerization mechanism, induction period, relative reactivity, styrene, allyl alcohol, vinylphosphonic acid dichlorethyl ester

ABSTRACT: The kinetics of copolymerization of di-β, β'-chloroethyl ester of vinylphosphonic acid (DCVP) with methacrylic acid (MAK), with styrene and with allyl alcohol were studied. Freshly recrystallized benzoyl peroxide was used as the initiator. In the concentration range of 0.2-2.0% by weight of the monomer the relation between the initial polymerization rate (v_{init}) and initiator concentration (C) is linear: $v_{init} = 2.35 \sqrt{C} - 0.019$. The polymerization rate-temperature relation for 10% MAK-90% DCVP in vacuum is expressed by lg $v_{init} = -5210/T +$

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ACCESSION NR: AP4039940

14.1, where v_{init} is percent of volume reduction of the reaction mass in 1 minute and T is the absolute temperature. The presence of atmospheric oxygen produces an induction period, but then polymerization proceeds more rapidly than in vacuum. This induction period is reduced with increase in temperature in the 50-80C range. The polymerization mechanism involves initiation due to the decomposition of the initiator and termination resulting from the recombination of two polymeric radicals. Regardless of initial monomer mixture, the copolymer is enriched in MAK; the relative reactivity of DCVP and MAK was calculated: $r_1 = 0.1$, $r_2 = 1.7$. The relative reactivity of DCVP and styrene were also found: $r_1 = 0.2$, $r_2 = 2.2$. DCVP is more active on copolymerization than the diethyl ester of vinylphosphonic acid. DCVP did not copolymerize (or there was only a small amount of conversion at low alcohol concentrations) with allyl alcohol at 50-100C and starting mixtures containing 5-50% allyl alcohol, probably due to the inhibiting action of the OH group on DCVP. "S. A. Sokolov participated in the experimental work." Orig. art. has: 3 tables and 4 figures.

ASSOCIATION: None

Card 2/3

ACCESSION NR: AP4040497

S/0190/64/006/006/1157/1157

AUTHORS: Orlov, V. A.; Tarakanov, O. G.

TITLE: Thermal destruction of polyurethanes (letter to the editor)

SOURCE: Vy#sokomolekulyarny#ye soyedineniya, v. 6, no. 6, 1964, 1157

TOPIC TAGS: polyurethane, toluylenediisocyanate ethyleneglycol polyurethane, hexamethylenediisocyanate ethyleneglycol polyurethane, polyurethane thermal destruction, destruction product, polyurethane specific viscosity

ABSTRACT: Studies were conducted on thermal decomposition (in vacuum) of a polyurethane based on toluylenediisocyanate and ethyleneglycol (I) and of polyurethane based on hexamthylenediisocyanate and ethyleneglycol (II). The composition of gases and volatile products obtained at 250C was analyzed chromatographically. Specific viscosities of polymer solutions heated at 190C were recorded. It was found that the decomposition of polyurethane I started at 170C, of polyurethane II at 190C. The gaseous phase contained carbon dioxide, ethylene oxide, acetaldehyde, and a number of unidentified products. The thermal decomposition of polyurethane I yielded nearly twice as much carbon dioxide as the

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ACCESSION NR: AP4040497

decomposition of polyurethane II. The volatile decomposition products of polyurethane I contained large amounts of toluylenediamine and only a little ethyleneglycol, while the thermal decomposition products of polyurethane II contained substantial quantities of ethyleneglycol but no free hexamethylenediamine. The specific viscosity of the solutions of polyurethane I dropped sharply after the beginning of heating, while polyurethane II became insoluble. The authors conclude that the patterns of thermal destruction suffered by polyurethanes I and II differ substantially.

ASSOCIATION: none

SUBMITTED: 27Feb64 DATE ACQ: 06Jul64 ENCL: 00

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

Card 2/2

FOMENKO, B.A.; ORLOV, V.A.; TARAKANOV, O.G.

Studying the kinetics of polyurethane formation by the change of the specific volumetric resistance of the thermosetting system. Plast.massy no.10:47-49 '64. (MIRA 17:10)

TARAKANOV, O.G.; VAKHTINA, I.A.; ORLOV, V.A.

Kinetics of gas evolution in the reaction of toluylenediisocyanate with water. Plast. massy no.12:45-46 '64.

(MIRA 18:3)

L 22201-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/JWD/RM

ACCESSION NR: AP5001484 S/0190/64/006/012/2189/2192

AUTHOR: Vasil'yev, B.V., Tarakanov, O.G. 15

TITLE: The effect of temperature on the crystallization characteristics of polyurethanes

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 12, 1964, 2189-2192

TOPIC TAGS: polyurethane, polyurethane crystallization, polymer crystallinity, annealing temperature, hexamethylene diisocyanate, polymer heat treatment

ABSTRACT: The dependence of crystallinity on the annealing temperature of polyurethanes was studied by X-ray analysis with samples produced from hexamethylene-diisocyanate plus ethylene-, diethylene-, triethylene-, or butylene-glycol. Amorphous and glassy specimens were prepared by heating to a temperature 20C above the melting point and quenching at -78C, annealed at the desired temperature, and again cooled to preserve the attained degree of crystallinity. Thermal treatment at -25 to 0C gave viscoelastic and rubbery samples, and the crystallization at temperatures above 0C proceeded in stages, as expected from published studies on linear polymers. Coarse crystalline orders formed at lower temperatures were transformed into improved orders and threedimensional crystals at higher temperatures, during a "second stage of crystallization". The change was demonstrated by the (200) reflex angle intensity. The log half width

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L 22201-65
ACCESSION NR: AP5001484

of the interference peak (200), which is related to the order of hydrogen bonds in the planar lattice, decreases insignificantly in the first but more rapidly in the second stage of crystallization, as shown in Figure 1 of the Enclosure. Orig. art. has: 2 figures.

ASSOCIATION: Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh smol (Vladimir Scientific Research Institute for Synthetic Resins)

SUBMITTED: 26Feb64 ENCL: 01 SUB CODE: OC

NO REF SOV: 001 OTHER: 010

Card 2/3

L 22201-65
ACCESSION NR: AP5001484

ENCLOSURE: 01

0

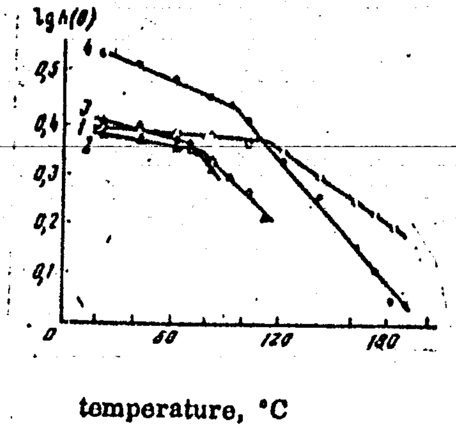

Fig. 1. Dependence of log half width of interference peak (200) on the annealing temperature of polurethanes: 1 - hexamethylenediisocyanate (HMDI) and ethylene glycol, 2-HMDI and diethylene glycol, 3 - HMDI and triethylene glycol, 4 - HMDI and butylene glycol.

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L 41303-65 EPF(c)/EPR/EWP(j)/EWT(m)/T Pc-4/Pr-4/Ps-4 RPL WW/JWD/RM

ACCESSION NR: AP5001485 S/0190/64/006/012/2193/2196 19

AUTHOR: Vasil'yev, B. V.; Tarakanov, O. G. 18

TITLE: The melting of crystalline polyurethanes 15 B

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 12, 1964, 2193-2196

TOPIC TAGS: polyurethane melting, crystalline polyurethane, polymer crystallinity, polymer heat treatment, annealing temperature, polymer lattice, hexamethylene diisocyanate

ABSTRACT: The dependence of the crystallinity and melting of polyurethanes on the annealing temperature was studied in order to define the breakdown of the intermolecular forces of the lattice in the anisotropic directions of crystalline order. Specimens produced from hexamethylene diisocyanate and ethylene-, diethylene-, triethylene-, or butylene-glycol were heated to 20C above the melting point, slowly cooled to room temperature to obtain a high degree of crystallinity, and annealed for 3 hrs. at various temperatures. Crystallinity corresponding to hydrogen bonds and Van der Waals forces was evaluated by X-ray analysis from the (200) and (002) reflex angle intensities, respectively. Destruction of the

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L 41363-65

ACCESSION NR: AP5001485

lattice started with the slow breakdown of Van der Waals forces, and it was followed after heating to approximately 20C higher temperatures by the rapid rupture of hydrogen bonds. The retarded and more rapid rupture of hydrogen bonds is ascribed to their higher energy, which prevents the development of high amplitude vibrations in the planar lattice until temperatures close to the melting point are reached. Orig. art. has: 2 figures and 2 formulas.

ASSOCIATION: Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh smol (Vladimir Scientific Research Institute for Synthetic Resins)

SUBMITTED: 26Feb64 ENCL: 00 SUB CODE: MT

NO REF SOV: 003 OTHER: 003

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Card 2/2

MIKHANOV, S.A.; TARAKANOV, O.G.

Foam formation in gelatin solutions. Plast. massy no.8:60-62 '64.

(MIRA 17:12)

L 25401-65 EWT(m)/EPF(c)/EWP(j) Fc-4/Pr-4 JAJ/RM

ACCESSION NR: AP5002831 S/0191/65/000/001/0058/0059

AUTHOR: Danilova, A.V.; Tarakanov, O.G.

TITLE: Foaming in polyvinylchloride pastes. Effect of moisture and surface active agents on foam stability

SOURCE: Plasticheskiye massy, no. 1, 1965, 58-59

TOPIC TAGS: polyvinylchloridefoam, foam stability, surface active agent, soya phosphatide, foam moisture content/ Igelit-P resin, DOP plasticizer, emulsifier MK, sulfonate Ufapast-O

ABSTRACT: Continuing previous studies, the authors experimented with an emulsion type polyvinylchloride (PVC) resin of East German manufacture, known as "Igelit-P", 15 and with DOP plasticizers to evaluate the effects of moisture in the PVC paste and of surface active agents on the stability of foams obtained from such pastes. The results indicate that stability deteriorates significantly when the paste contains as little as ~0.8% water by weight. Drying at temperatures up to 80C does not lower stability. Surface active agents used in the experiments included emulsifier "MK", soya phosphatide and a Norwegian Na-sulfonate Ufapast-O, added to purified resin in quantities comprising 3% by weight of the plasticizer. Use of an appropriate surface active agent is

Card 1/2

L 25401-65

ACCESSION NR: AP5002831 O

recommended. Orig. art. has: 3 tables and 1 figure.

ASSOCIATION: none

SUB MITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 001 OTHER: 001

Card 2/2

L 27794-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM
ACCESSION NR: AP5004315 S/0191/65/000/002/0041/0042

AUTHOR: Polyakov, Yu. N.; Antsupov, Yu. A.; Tarakanov, O.G.

20
B

TITLE: The dependence of the mechanical properties of flexible cellular polyvinyl chloride on volumetric weight

15

SOURCE: Plasticheskiye massy, no. 2, 1965, 41-42

TOPIC TAGS: polyvinyl chloride, polyvinyl chloride foam, polymer mechanical property, polymer volumetric weight, cellular polymer

ABSTRACT: The mechanical and elastic properties of flexible polyvinyl chloride with an open cellular structure (less than 5% closed cells) were measured in order to define the dependence of these properties upon volumetric weight. The specimens, which were produced by a non-pressure method, had volumetric weights of 0.05-0.5 g/cc. Deformation and elasticity were measured under static and dynamic conditions, recording the polymer behavior at constant deformation rates of 8 mm/min. or under impact-compression, respectively. The rigidity of the material increased non-linearly with increasing volumetric weight γ, shown in Fig. 1 of the Enclosure. The behavior at constant deformation is ascribed to the decreasing effect of the bending of cellular walls, which is negligible at γ exceeding 0.3-0.4 g/cc. The dynamic modulus of elasticity, measured

15

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L 27794-65

ACCESSION NR: AP5004315

2

under impact compression, is also affected by the wall flexibility but is determined primarily by the elasticity of air-cells up to volumetric weights of approximately 0.3 g/cc. At higher values of γ the behavior of the material depends primarily on the properties of the polymer, approaching those of solid polyvinyl chloride. The significance of the critical value $\gamma = 0.3$ g/cc is also proved by a marked maximum of the rebound resilience of specimens tested under equal impact strengths. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01 SUB CODE: OC, OC

NO REF SOV: 004 OTHER: 003

Card 2/3

L 27794-65
ACCESSION NR: AP5004318

ENCLOSURE: 01

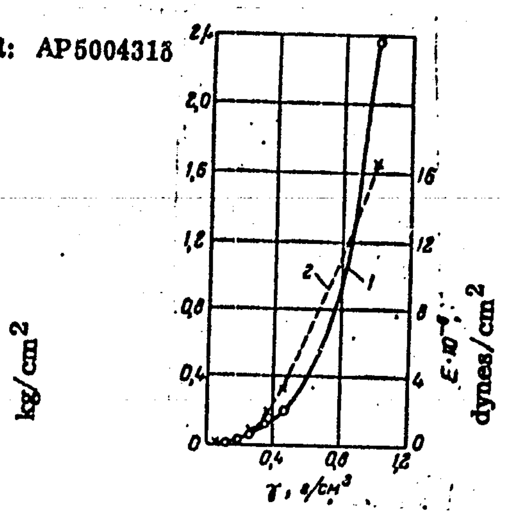

Fig. 1. The dependence of stress at 10% deformation (1) and the dynamic modulus of elasticity (2) on the volumetric weight of cellular polyvinyl chloride.

Card 3/3

TARAKANOV, O.G.; DEMINA, A.I.

[illegible] Determining the paste forming properties of polyvinyl chloride resins. Plast. massy no.3:28-32 '65.

(MIRA 18:6)

ORLOV, V.A.; TAHAKANOV, O.G.

Study of the thermal degradation of polyurethane from tolylenediisocyanate and ethylene glycol. Plast. massy no.5: 12-15 '65. (MIRA 18:6)

TARAKANOV, O.G.; YEREMINA, Ye.G.

Foam formation in nonaqueous media. Part 2: Characteristics of breakage of foams based on dioctyl phthalate. Koll. zhur. 27 no.2:274-278 Mr-Ap '65. (MIRA 18:6)

1. Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh smol.

TARAKANOV, O.G.; DEMINA, A.I.; DUBYAGA, Ye.G.

Structure formation in nonaqueous foam films as a factor of their stabilization. Dokl. AN SSSR 163 no.3:684-685 Jl '65. (MIRA 18:7)

1. Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh smol. Submitted January 11, 1965.

L 62173-65 EPF(c)/EPR/EWP(j)/EWA(c)/EWT(m)/T Pc-4/Pr-4/Ps-4 RPL JAJ/RM/WW

ACCESSION NR: AP5014685

UR/0191/65/000/006/0011/0013
678.664'420.01:536.495

32
B

AUTHOR: Orlov, V.A.; Tarakanov, O.G.

TITLE: Thermal degradation of polyurethane made from hexamethylene diisocyanate and ethylene glycol

SOURCE: Plasticheskiye massy, no. 6, 1965, 11-13

TOPIC TAGS: thermal degradation, polyurethane, hexamethylene diisocyanate, ethylene glycol, toluylene diisocyanate, polymer heat stability

ABSTRACT: The article discusses the effect of the structure of the isocyanate on the thermal stability of polyurethanes I and II (I = polyurethane prepared from toluylene diisocyanate, II - from hexamethylene diisocyanate and ethylene glycol). The degradation kinetics of I and II were studied at various temperatures, in helium, in a vacuum, and in nitrogen at various pressures. The degradation products were analyzed chromatographically, and IR spectra were taken. The evolution of gas from polyurethane I was twice as large as from polyurethane II. Specific viscosity curves of the polymer solutions show that the molecular weight of I decreases at once, whereas II becomes cross-linked, becoming only partly soluble. In I, the urethane group splits up to form

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L 62173-65

ACCESSION NR: AP5014685

CO_2, an amine, an olefin, or a secondary amine, while in II, the urethane group splits into the isocyanate and an alcohol. It is concluded that the isocyanate substituent affects the decomposition of the urethane group. The mechanism of this influence is elucidated. Summing up all the data obtained, the authors find that polyurethane II is more heat-stable than polyurethane I. Orig. art. has: 4 figures and 4 formulas.

ASSOCIATION: none

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

NO REF SOV: 001 OTHER: 004

Card 2/2

L 60040-65 EWG(j)/EWT(m)/EPF(c)/EWP(j)/EWA(h)/EWA(c)/EWA(1) Pc-4/Pr-4/Ps-4/Peb

ACCESSION NR: AP5018040 RPL WW/JAJ/ RM UR/0191/65/000/007/0043/0046
678.664.019.391

35
34
B

AUTHOR: Nevskiy, L. V.; Tarakanov, O. G.; Belyakov, V. K.

TITLE: Light aging of polyurethanes

SOURCE: Plasticheskiye massy, no. 7, 1965, 43-46

TOPIC TAGS: polyurethane, ultraviolet radiation, polyurea, polymer aging, polymer film, optical density, wetting angle, polymer viscosity

ABSTRACT: The article describes the effect of ultraviolet radiation on polyurethanes (polyurethane-1, -2, -3, -4), prepared from toluylenediisocyanate, and on polyurea-2, obtained from m-toluylenediamine and urea. After irradiation for 50, 100, 150, and 200 hrs., the following characteristics of the polymer film samples were measured: (1) Optical density change $\Delta D = D_1 - D_2$ (D_1 and D_2 being the optical density of the irradiated and original film, respectively); (2) Angle of wetting of the film by water; (3) Specific viscosity of the polymer solutions; (4) Rate of gas evolution during irradiation. It was found that an increase in the quantity of carbamide groups in polyurethane causes an increase in the color intensity of the irradiated samples, which turned yellow. This was

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L 60040-65

ACCESSION NR: AP5018040

associated with a rapid evolution of gas, which dropped off with time of irradiation. Mass-spectrometric analysis of the gaseous products of polyurethane containing 3% carbamide groups established the presence of CO_2, CO, H_2, H_2O, CH_4, HCN, and CH_2O. ESR spectra showed the presence of free radicals and will be discussed in a later report. The viscosity of the soluble part of the irradiated polymers remains practically unchanged during the course of irradiation. Measurements of the angle of wetting lead to the conclusion that, as irradiation goes on, hydrophobization of the surface of the films takes place. Orig. art. has: 4 figures, 1 table, and 2 formulas.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: OC

NO REF SOV: 004 OTHER: 011

Card 2/2

L 27627-65 EWT(m)/EPF(c)/EWA(d)/T/EWP(j)/EPR/EWA(c) Pc-4/Pr-4/Ps-4 RPL
WW/RM

ACCESSION NR: AP5005588 S/0190/65/007/002/0224/0225 30

27

AUTHOR: Tarakanov, O. G.; Demina, A. I.

15 B

TITLE: Effect of surface-active agents 7 in the morphology of polyurethan

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 2, 1965, 224-225

TOPIC TAGS: polyurethan, morphological form, surface active agent

ABSTRACT: A study has been made of the effect of various types of surface-active agents on the development of morphological forms in polyurethans. The experiments were conducted with polyurethan synthesized from hexamethylene diisocyanate and ethylene glycol and the following surface-active agents: straight-chain alkyl- and alkylaryl-sulfonates, OP-10, the branched organosilicon compound "Si" (molecular weight, 3000), and the fluorine-containing material "SiF" (molecular weight, 1000). Various amounts of surface-active agents were added to 0.2% dimethylformamide-acetone polyurethan solutions. Evaporation of the solvent at 70C yielded more or less developed spherulitic polyurethan structures. Electron microscope study of these structures showed that straight-chain compounds having low surface activity promote ordering of the polymer structure, but substances with high surface activity hinder ordering. The negative effect of surface-active agents on polymer ordering increases with molecular weight and the degree of branching. Orig. art. has: 2 figures. [BO]

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L 27627-65

ACCESSION NR: AP5005588

ASSOCIATION: Vladimirskiy institut sinteticheskikh smol (Vladimir Institute of Synthetic Resins)

SUBMITTED: 23Mar64

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 003

OTHER: 001

ATD PRESS: 3190

Card 2/2

L 54973-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 WW/RM

ACCESSION NR: AP5012103 UR/0191/65/000/005/0012/0015

678.664.01:536.49

29
B

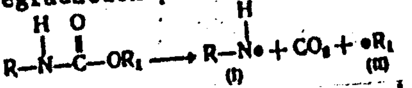
AUTHOR: Orlov, V. A.; Tarakanov, O. G. 15

TITLE: Study of the thermal degradation 15 of polyurethane 15 made from toluylene diisocyanate and ethylene glycol

SOURCE: Plasticheskiye massy, no. 5, 1965, 12-15

TOPIC TAGS: polyurethane degradation, polymer thermal degradation, toluylene diisocyanate, ethylene glycol

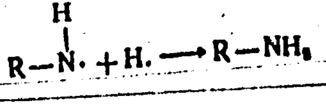
ABSTRACT: The thermal degradation of polyurethane in a vacuum was studied at 170-270C by measuring the kinetics of gas evolution and weight loss, and by analyzing the products. The degradation proceeds as follows:



$$R-\overset{H}{\overset{|}{N}}-\overset{O}{\overset{\|}{C}}-OR_1 \longrightarrow \underset{(I)}{R-\overset{H}{\overset{|}{N}}\cdot} + CO_2 + \underset{(II)}{\cdot R_1}$$

A

The first radical may be stabilized by adding hydrogen and changing it into an amine:



$$R-\overset{H}{\overset{|}{N}}\cdot + H\cdot \longrightarrow R-NH_2$$

B

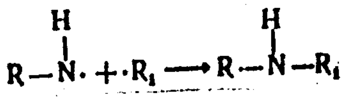
Card 1/2

L 54973-65

ACCESSION NR: AP5012103

0

In addition, it may react with radical II, forming a secondary amine:



$$R-\overset{H}{\overset{|}{N}}\cdot + \cdot R_1 \longrightarrow R-\overset{H}{\overset{|}{N}}-R_1$$

C

Ethylene oxide, acetaldehyde, and an unidentified component, probably ethylene, were observed in the gas phase. All these compounds may be products of the transformations of radical II. The above mechanism was confirmed by changes in the molecular weight, its pronounced decrease during thermal degradation indicates that the molecules do not contain reactive isocyanate groups able to enter into cross-linking reactions. The mechanism was also supported by determinations of CO_2 in the gas phase. Orig. art. has: 7 figures and 5 formulas.

ASSOCIATION: None

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

NO REF SOV: 000 OTHER: 010

Card 2/2

L 55113-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 WW/RM

ACCESSION NR: AP5015278 UR/0286/65/000/009/0064/0064
678.02:66.095.3:664.049.7

32
B

AUTHOR: Petrov, Ye. A.; Tarakanov, O. G.; Fedorov, A. A.; Grinevich, K. P.

TITLE: Preparation of foamed polyurethans. Class 39, No. 170648

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 64

TOPIC TAGS: foamed polyurethan, organosilicon liquid

ABSTRACT: An Author Certificate has been issued for a preparative method for foamed polyurethans. To improve the mechanical properties of the material and to eliminate expensive and toxic catalysts, GKGh-11 and GKGh-12 type organosilicon liquids are used as catalysts and emulsifiers. [BO]

ASSOCIATION: Vladimirskiy nauchno-issledovatel'skiy institut sinteticheskikh smol (Vladimir Scientific Research Institute of Synthetic Resins)

SUBMITTED: 23Mar64 ENCL: 00 SUB CODE: MT

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4024

Card 1/1

L 32683-66 EWT(m)/T/EWP(j) IJP(c) WW/JWD/RM

ACC NR AP6015058 (A) SOURCE CODE: UR/0190/66/008/005/0938/0942

AUTHOR: Vasil'yev, B. V.; Tarakanov, O. G.; Demina, A. I.; Shirobokova, A. I.

ORG: Scientific Research Institute of Synthetic Resins (Nauchno-issledovatel'skiy institut sinteticheskikh smol)

TITLE: Investigation of polyurethane crystallization

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 5, 1966, 938-942

TOPIC TAGS: polyurethane, crystal lattice, glycol, isocyanate, ~~polymer~~ crystallization, copolymerization, molecular weight

ABSTRACT: The crystallization capacity and morphological structural types as a function of the chemical composition of polyurethane has been studied. The crystalline lattice of polyurethane depends on the initial isocyanate and glycol structures. The crystalization capacity of polyurethane drops with an increase in the polyester molecular weight up to 1000. In the case of polymers with a polyester base and molecular weight above 1000, the polyurethane could crystalize. However, in this case the crystalline lattice structure does not depend on the diisocyanate structure but only on the polyester structure. The degree of

Card 1/2 UDC: 678.01:53+678.664

L 32683-66

ACC NR: AP6015058

0

crystallization can be changed by copolymerization. Orig. art. has: 7 figures. [NT]

SUB CODE: 11, 07/ SUBM DATE: 26May65/ ORIG REF: 009/ OTH REF: 005

Card 2/2 BLG

L 43628-66 EWT(m)/T/EWP(j) IJP(c) RM/WW

ACC NR: AP6017861 SOURCE CODE: UR/0069/66/028/003/0431/0436 32 31

AUTHOR: Petrov, Ye. A.; Tarakanov, O. G. B

ORG: Vladimir Scientific Research Institute of Synthetic Resins (Vladimirskiy nauchno-issledovatel' skiy institut sinteticheskikh smol)

TITLE: Foaming of solutions of surface-active substances in urethane oligomers

SOURCE: Kolloidnyy zhurnal, v. 28, no. 3, 1966, 431-436

TOPIC TAGS: solution property, oligomer, polyurethane, surface active agent

ABSTRACT: Foaming of solutions of surface-active substances in polyurethane oligomers and the mechanism of foam stabilization have been investigated. The solution properties of surface-active foams are stabilized according to the Gibbs—Marangoni mechanism with the formation of volumetric structures. As the forming structures are characterized by a low strength and the foams have a low stability, the Gibbs— Marangoni mechanism is decisive in the stabilization process. The

Card 1/2 UDC: 541.18.05

L 43698-66

ACC NR: AP6017861

authors thank Academicians P. A. Rebinder and I. N. Vlodavts for their interest in this work and their valuable instructions. Orig. art. has: 4 figures and 1 table. [Based on authors' abstract] [NT]

SUB CODE: 11/ SUBM DATE: 27Jan65/ ORIG REF: 004/ OTH REF: 003/

Card 2/2

L 08800-67 EWT(m)/EWP(j) IJP(c) RM

ACC NR: AP6030853 (A, N) SOURCE CODE: UR/0191/66/000/009/0045/0047

AUTHOR: Nevskiy, L. V.; Tarakanov, O. G. 34

ORG: none 15

TITLE: Color formation in polyurethanes as a result of illumination

SOURCE: Plasticheskiye massy, no. 9, 1966, 45-47

TOPIC TAGS: polyurethane, isocyanate resin, polymer physical chemistry, synthetic material, free radical, UV irradiation, UV absorption

ABSTRACT: The factors underlying the yellowish color in polyurethanes based on toluylenediisocyanate when illuminated with UV-light were investigated. The study was conducted on 0.1 mm films prepared from toluenediisocyanate adduct and polyoxypropylenediol in benzene by hardening the condensation product with glycerine on the mercury surface. Steps were taken to exclude moisture from the reaction zone and portions of the sample areas were protected from UV-light. The extent of the color formation in the films was defined optically (in terms of optical density) on a CF-4 spectrophotometer. All samples were illuminated for 50 hrs. It was concluded that oxidation in the UV-illuminated polyurethanes may occur in the absence of oxygen. This type of oxidation in polyurethanes is attributed either to light-induced changes in the aromatic ring of the disocyanate or to a conjugation involving an unpaired electron. The

Card 1/2 UDC: 678.664.01:535.68-31

L 08800-67

ACC NR: AP6030853

0

formation of this unpaired electron would result from the cleavage of the N-C bonds in the polyurethane chains. Orig. art. has: 2 figures.

SUB CODE: 07,11/ SUBM DATE: 00/ ORIG REF: 004/ OTH REF: 008

Card 2/2 ast

TARAKANOV, P.D.

Another gas pipeline to an enterprise of the chemical industry.
Stroi. trub. 9 no.7:2-3 Jl '64. (MIRA 17:11)

1. Turkmenskiy filial Vsesoyuznogo neftegazovogo nauchno-issledovatel'skogo instituta, Nebit-Dag.

TIL'TIN, G.K.; VAYZEL', L.Ye.; DANILOV, V.V.; [illegible], [illegible]; [illegible], [illegible]

Brief news. Gaz. prom. 9 no.9:52-56 '64. (MIRA 17:10)

TARAKA R. Z.

USSR/Geophysics - Earthquakes

FD-2767

Card 1/2	Pub. 45 - 1/13
Author	: Monakhov, F. I.; Tarakanov, R. Z.
Title	: Characteristics of the Kurile-Kamchatka earthquakes according to observations of nearby stations for the years 1952-1954
Periodical	: Izv. AN SSSR, Ser. geofiz., Sep-Oct 1955, 401-415
Abstract	: The authors describe maps of the epicenters of the Kurile-Kamchatka earthquakes for the period 1952-1954 according to observations of the far east network of seismic stations and discuss the plutonic occurrence of centers east of Kamchatka and the Kurile Islands. They conclude that the Kurile-Kamchatka zone is tectonically divided into individual blocks whose seismic activity does not appear at the same time and that in 1952-1954 a considerable release of seismic energy occurred east of the north Kurile Islands and in the southern part of Kamchatka and region of Hokkaido Island. The region of the Kurile-Kamchatka earthquake manifestations is bounded on the Pacific Ocean side of the Kurile Deep-water Depression. The centers of the earthquakes east of Kamchatka and Kurile Islands are mainly at a depth of about 60 kilometers, and the depths of the centers increase in the direction

FD-2767

Card 2/2

Abstract : toward the continent. Seven references: e.g. N. A Linden, "Catalog of deep-focus earthquakes according to data of the network of USSR seismic stations," Trudy Seysmologicheskogo in-ta AN SSSR, No 124, 1947.

Institution : Sakhalin Affiliate, Academy of Sciences USSR

Submitted : December 16, 1954

FEDOTOV, S.A.; AVER'YANOVA, V.N.; BAGDASAROVA, A.M.; KUZIN, I.P.;
TARAKANOV, R.Z.

Some results of a detailed study on the seismicity of southern Kurile Islands. Izv.AN SSSR.Ser.geofiz. no.5:633-642 My '61. (MIRA 14:4)

1. Adademiya nauk SSSR, Institut fiziki Zemli.
(Kurile Islands--Seismometry)

S/169/62/000/010/021/071
D228/D307

AUTHOR: Tarakanov, R.Z.

TITLE: Some results of studying Far Eastern earthquakes

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 10, 1962, 23, abstract 10A155 (Tr. Sakhalinsk. kompleksn. n.-i. in-t, no. 10, 1961, 100-111)

TEXT: The following conclusions are drawn as a result of studying Far Eastern earthquakes in the period 1952-1956. 1. The accuracy of determining most of the epicenters of Far Eastern earthquakes from regional station data comprise ± (30-35) km. The areas of possible epicenter positions extend in a direction perpendicular to the Kuriles-Kamchatka arc. 2. The greatest number of epicenters near the Kuriles-Kamchatka arc is confined to the north-west slope of the deep-sea depression. 3. Seismic activity in various parts of the Kuriles-Kamchatka arc is not displayed simultaneously. This is probably explained by the arc's block structure. 4. Each different part of the Kuriles-Kamchatka arc has its own prevalent focal

Card 1/2