KOZLOV, L.F., kand. tekhn. nauk

Use of wire turbulators in testing ship models. Sudostroenie 28 no.1:15-16 Ja '62. (MIRA 16:7)

(Ship models—Testing)

ACCESSION NR: AP4012796 S/0170/64/000/002/0071/0074

AUTHOR: Kozlov, L. F.

TITLE: Calculation of an axisymmetric laminar boundary layer on a porous body in an incompressible fluid

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 2, 1964, 71-74

TOPIC TAGS: laminar boundary layer, porous surface, incompressible flow

ABSTRACT: A body within a moving fluid is called porous if in general the normal component of fluid velocity at the body's surface is different from zero. Starting from the integral momentum relationship equation the author obtains

$$f(x)=\frac{\frac{dU}{dx}}{U^{B}r_{0}^{2}}\int_{0}^{x}[A(\xi)-2l^{**}(\xi)]\,U^{B-1}(\xi)r_{0}^{2}(\xi)\,d\xi+C\frac{\frac{dU}{dx}}{U^{B}}. \qquad (1)$$

where f is the form parameter of the boundary layer; U, the velocity on the outer position of the boundary layer; B = 5.43; r_0 is the radial coordinate of the

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ACCESSION NR: AP4012796

axisymmetric body; and t** is the parameter of bleed and is described by $v_0\delta^{**}/\nu$, where v_0 is the normal velocity component at the surface of the body, δ^{**} is the thickness of momentum losses, and ν is the kinematic viscosity coefficient of the fluid. For nonporous bodies ($t^{**} = 0$), Equation (1) coincides with the solution given earlier by L. G. Loytsyanskiy (DAN SSSR, 36, No. 6, 1942). For known v_0, parameters f and t** are found by successive approximation. First, $f_1(0)$ is obtained from

$$f_1'(0) = \frac{v_0}{U_0} \Big/ 2\sqrt{\frac{U_0 x}{\nu}},$$

and then a first-approximation value of t** is read off a graph showing t** versus $f_1(0)$. This graph was established on the basis of experimental data by H. Emmons and D. Leigh (Aeron. Res. Com., C. P. 147, 1954). Such a t** in (1) yields f (x) in the first approximation, and this in $t^{**} = v_0 (f(x)/\frac{dU}{dx})1/2$ gives t** in the second approximation, etc. Sufficiently accurate values of t** and f permit calculation of all the pertinent characteristics of the axisymmetric boundary layer. Calculations showed that a third-order approximation

Card 2/3

ACCESSION NR: AP4012796

is sufficient for elongated axially symmetric bodies (a/b > 6). Orig. art. has 5 formulas and 2 figures.

ASSOCIATION: Tsentral'ny*y nauchno-issledovatel'skiy institut im. A. N. Kry*lova (Central Scientific-Research Instituto)

SUBMITTED: 18Dec62	DATE ACQ: 26Feb64	ENCL: 00
SUB CODE: AI, PH	NO REF SOV: 002	OTHER: 001

Card 3/3

KOZLOV, L.F.

Optimum suction of a boundary layer on a porous plate in an incompressible liquid. Inzh.-fiz.zhur. 6 no.10:88-92 O '63.
(MIRA 16:11)

L 5152-66 EWT(d)/EWT(l)/EWP(e)/EWP(m)/EWT(m)/EWP(w)/T-2/EWP(t)/EWP(k)/EWP(z)/FCS(k)/EWA(h)/ETC(m)/EWA(l) JD/WW/EM

ACCESSION NR: AP5020936 UR/0170/65/009/002/0151/0154
532.526

61
60
B

AUTHOR: Kozlov, L. F.

TITLE: Optimum suction of the boundary layer on a porous plate taking initial flow turbulence into account

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 9, no. 2, 1965, 151-154

TOPIC TAGS: turbulent flow, turbulent boundary layer, Reynolds number, laminar boundary layer, laminar flow, surface boundary layer, boundary layer flow, boundary layer suction, porous plate, wing section, fluid flow

ABSTRACT: An analysis of experimental data obtained elsewhere (Burrows, D., Schwartzberg, M., NACA TN 2644, 1952.) shows that the lamination of the boundary layer by means of fluid suction through a porous surface of a wing section is possible when the local Re number is equal to its critical value in the transition point, which depends on the initial flow turbulence. This factor should be considered in the calculation of the laminar boundary layer of wing sections moving in media of small initial turbulence. Attempts

Card 1/4

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made to evaluate the possible effect of the initial turbulence on the optimum distribution of the rate of suction of small quantities of fluid through a specially devised porous surface of wing sections proved to be extremely cumbersome and labor consuming due to computational difficulties. It is possible, however, to evaluate the major portions of this effect by solving an analogous problem for a porous plate. On the basis of a semiempiric formula proposed earlier (Kozlov, L. F., IFZh, No. 3, 1962.) and the results of that work, the present author gives the critical value of the Re number for transition of a plate as:

$$Re_t^{**} = Re_L^{**} + c_1 \sqrt{I_0} / \varepsilon^{1/4}, \qquad (1)$$

The following approximate formula is recommended for the determination of the value of the lower critical Re number Re^{**}_L:

$$Re_L^{**} = \exp(A - BH). \qquad (2)$$

The optimum distribution of the rate of fluid suction from the boundary layer of a porous plate as a function of the Re number and initial turbulent flow is graphed (Fig. 1 of the Enclosure). An analysis of the data from the graph shows that the optimum distribution depends to a considerable degree on the initial turbulent flow, e.g., the maximum value of

L 5152-66
ACCESSION NR: AP5020936

the dimensionless rate of optimum fluid suction with initial flow turbulence $\varepsilon = 2\%$ is $V_0/U_0 = 1.24 \cdot 10^{-4}$, and with initial $\varepsilon = 0.2\%$ it is $0.56 \cdot 10^{-4}$. Orig. art. has: 1 figure and 10 formulas.

ASSOCIATION: Institut gidromekhaniki AN UkrSSR, Kiev (Institute of Hydromechanics, AN UkrSSR)

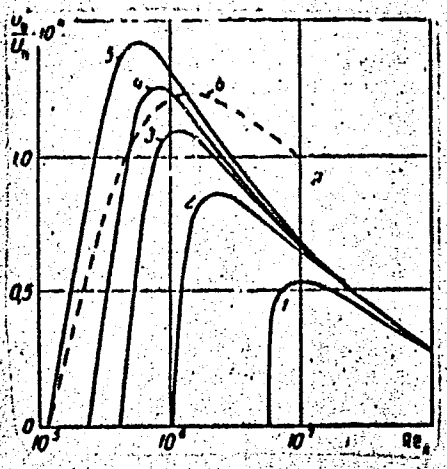
SUBMITTED: 06Nov64 ENCL: 01 SUB CODE: ME

NO REF SOV: 004 OTHER: 004

Card 3/4

L 5152-66
ACCESSION NR: AP5020936 ENCLOSURE: 01

Fig. 1 Distribution of the optimum rate of fluid suction from the boundary layer of a porous plate as a function of Re number: 1 - = 0.2; 2 - 0.5; 3 - 1; 4 - 2; 5 - 5; 6 - according to Pretsch J. Deutsche Luftfahrtforschung, UM 3048, 1943.



Card 4/4 MD

L 7829-66 EWT(1)/EWP(m)/FCS(k)/EWA(1) WW
ACC NR: AP5026849 SOURCE CODE: UR/0170/65/009/004/0433/0437

55

AUTHOR: Kozlov, L. F.

55

ORG: Institute of Hydromechanics AN UkrSSR, Kiev (Institut gidromekhaniki AN UkrSSR)

38 B

TITLE: Calculation of the incompressible laminar boundary layer on a plate with suction through slits

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 9, no. 4, 1965, 433-437

TOPIC TAGS: boundary layer theory, incompressible flow, Prandtl equation, Reynolds number

1,55

ABSTRACT: The article gives a theoretical calculation, based on literature data, of the laminar boundary layer formed by the flow of a viscuous incompressible fluid past a flat plate with transverse slits at large Reynolds numbers. The analysis is based on the momentum equation which, for an element of the boundary layer on a plane plate, has the following form:

$$\frac{d\delta^{**}}{dx} + \frac{v_0}{U} = \frac{\tau_w}{\rho U^2}, \qquad (1)$$

This statement of the problem uses a rectangular coordinate system, the origin of which is located at the forward edge of the plate; the x axis is directed along the sur-

Card 1/2

UDC: 532.517.2

2

L 7829-66
ACC NR: AP5026849

face of the plate, and the y axis is normal to the plate. For the given flow velocity, the second term of the above equation is assumed constant in the region of the slits and equal to zero outside the slits. The article first determines the characteristics of the laminar boundary layer with homogeneous suction of the boundary layer over the whole surface of the plate. After introduction of new variables, the characteristics of the boundary layer with homogeneous suction on the surface of a porous plate are determined by numerical integration of the Prandtl differential equations. The results of the calculation are given in graphic form, and are compared with the results of Lachmann and Colemann. Orig. art. has: 8 formulas and 2 figures

SUB CODE:ME,GC/ SUBM DATE: 02Oct64/ ORIG REF: 002/ OTH REF: 004

Card 2/2 bjp

L 22652-66 EWT(1)/EWP(m)/T-2/EWA(1)

ACC NR: AP6007571 SOURCE CODE: UR/0198/66/002/002/0110/0116

AUTHOR: Kozlov, L. F. (Kiev)

ORG: Institute of Fluid Mechanics, AN UkrSSR (Institut gidromekhaniki AN UkrSSR)

TITLE: Integration of three-dimensional boundary layer equations in the presence of suction or injection

SOURCE: Prikladnaya mekhanika, v. 2, no. 2, 1966, 110-116

TOPIC TAGS: fluid mechanics, three dimensional boundary layer, boundary layer equation integration, secondary flow, secondary flow reduction

ABSTRACT: The possibility of utilizing the suction of a liquid through a penetrable surface of a body to reduce the secondary flows in the three-dimensional boundary layer is analyzed. To obtain a general picture of the effect of suction or injection of a liquid upon the secondary flows in the boundary layer, the Prandtl system of partial differential equations for the three-dimensional laminar boundary layer on a penetrable plate are integrated. It is considered that the plate is semi-infinite and the flow past the plate is parabolic. Using certain simplifying assumptions and substitutions containing a certain function F(η), the Prandtl equations are reduced to ordinary differential equations (second- and third-order) with corresponding boundary conditions. It is indicated that the first of these equations was already

Card 1/2

L 22652-66

ACC NR: AP6007571

integrated by H. W. Emmons and D. C. Leigh (Aeronautic. Res. Com. Current Paper, no. 147, 1954) on a high-speed electronic computer. Exact solutions of the other equations were obtained by the author on the Minsk-1 electronic computer for the following values of the function F(0): —1.2, —1, —0.8, —0.5, 0, 0.5, 1.5, and 2. Integration results are presented in tables. On the basis of the obtained solutions, the distributions of the ratios of boundary layer velocity components t,n taken in the direction of the tangent and the normal to the local direction of the exterior flow and the local velocity of the exterior flow T(ratios t/T and n/T) for the cases of suction and injection of liquid through a penetrable plate are calculated and presented in graphs. It is concluded from these results that suction of a liquid through a penetrable surface can be considered as an effective means of reducing or even eliminating secondary flows in three-dimensional boundary layers. Orig. art. has: 26 formulas, 5 figures, and 3 tables. [LK]

SUB CODE: 20 SUBM DATE: 17Nov64/ OTH REF: 004/ ATD PRESS: 4216

Card 2/2

L 21129-66 EWT(d)/EWT(l)/EWP(e)/EWP(m)/EWT(m)/EWA(l) LJP(c) RM/WW/WH

ACC NR: AP6011335 SOURCE CODE: UR/0198/66/002/003/0119/0123

AUTHOR: Kozlov, L. F. (Kiev)

ORG: Institute of Hydromechanics, AN UkrSSR (Institut gidromekhaniki AN USSR)

TITLE: Integration of equations of the laminar boundary layer on a porous surface

SOURCE: Prikladnaya mekhanika, v. 2, no. 3, 1966, 119-123

TOPIC TAGS: laminar boundary layer, flow distribution, differential equation, integration

ABSTRACT: Equations of a laminar boundary layer in partial derivatives at exponential distribution of speeds in an external flow are reduced to an ordinary differential third-order equation. The results are presented of integrating this equation on an electronic computer for a permeable surface of a body in the presence of boundary-layer suction. Orig. art. has: 4 figures, 11 formulas, and 2 tables. [Based on author's abstract] [NT]

SUB CODE: 20/ SUBM DATE: 17Jan65/ ORIG REF: 001/ OTH REF: 001/

Card 1/1

L 38273-66 EWT(d)/EWT(l)/EWP(m)/EWT(m)/EWP(w)/EWP(v)/EWP(k) IJP(c) WW/EM/GD

ACC NR: AT6016730 (N) SOURCE CODE: UR/0000/65/000/000/0167/0175

AUTHOR: Kozlov, L. F.

ORG: Institute of Hydromechanics AN UkrSSR (Institut Gidromekhaniki AN UkrSSR)

TITLE: Connection between the resistance proper and the critical diameter of an isolated cylindrical element of roughness

SOURCE: AN UkrSSR. Gidrodinamika bol'shikh skorostey (High speed hydrodynamics), no. 1. Kiev, Izd-vo Naukova dumka, 1965, 167-175

TOPIC TAGS: hydraulic resistance, surface roughness

ABSTRACT: The hydrodynamic resistance of a body moving at high velocities depends to a large degree on the extent of the laminar section in the boundary layer. One of the basic factors determining the transition from a laminar boundary layer to a turbulent boundary layer is the roughness of the surface of the body. The present treatment of the problem is based on the application of the momentum law to control cross-sections 1 and 2. (See Fig. 1)

Card 1/3

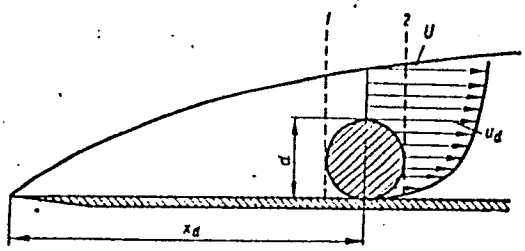


Fig. 1. Diagram of the position of the cylindrical element of roughness in the laminar boundary layer of a plate.

The problem is stated as follows:

$$\rho U^2(\delta_2^{**}-\delta_1^{**})=T, \qquad (1)$$

where δ_1^{**} is the thickness of the momentum loss in the boundary layer directly in front of the element of roughness; δ_2^{**} is the thickness of the momentum loss in the boundary layer directly after the element of roughness; T is the force of the hydrodynamic resistance acting on the element of roughness (the resistance proper); ρ is the density of the

L 38273-66

ACC NR: AT6016730

liquid. Applying this principle, actual experiments were carried out using a specially built very sensitive dynamometer, which is illustrated in the article, along with a diagram of the electrical measuring circuit used. Results are shown in graphic form. Orig. art. has: 12 formulas, 6 figures and 1 table.

SUB CODE: 20/ 09/ SUBM DATE: 30Sep65/ ORIG REF: 004/ OTH REF: 003

Card 3/3

ACC NR: AP6026425 SOURCE CODE: UR/0375/66/000/005/0074/0080

AUTHOR: Kozlov, L. F. (Candidate of Technical Sciences)

ORG: None

TITLE: Boundary layer control

SOURCE: Morskoy sbornik, no. 5, 1966, 74-80

TOPIC TAGS: boundary layer control, boundary layer theory, surface boundary layer, turbulent boundary layer, combatant ship, cargo ship, submarine, torpedo, laminar boundary layer, flow research

ABSTRACT: The wide-ranging theoretical and experimental research recently engaged in by shipbuilders in many countries concerned with the possibility of reducing the resistance of water to the movement of warships is discussed and its tremendous practical significance pointed out, since in most slow-speed non-combatant ships and submarines the major share of the total resistance is viscous drag, which includes the resistance caused by surface roughness, friction, and form resistance. Since it is evident that reducing the roughness of the hull's surface will result in reducing the ship's resistance, scientific workers and naval shipbuilders in many countries are making an intensive study of how this may be done. Three trends have been noted: lamination of the boundary layer, by pumping out small quantities of water through a uniformly porous sheathing; damping the speed and pressure pulsations

Card 1/2

ACC NR: AP6026425

in the boundary layer by using rubber, or synthetic, coatings of special design; reduction in resistance of the turbulent function of the ship using air, vapor-water or non-Newtonian liquid envelopes, or gasification of the boundary layer. The first and the third of the above appear to have the greatest future prospects for submarines and torpedoes.

SUB CODE: 20,13/SUBM DATE: None

Card 2/2

ACC NR: AP6036461 SOURCE CODE: UR/0198/66/002/011/0112/0117

AUTHORS: Kozlov, L. F. (Kiev); Tsyganyuk, A. I. (Kiev)

ORG: Institute of Hydromechanics, AN UkrSSR (Institut gidromekhaniki AN UkrSSR)

TITLE: Using sixth degree polynomials for calculating a boundary layer in the presence of suction

SOURCE: Prikladnaya mekhanika, v. 2, no. 11, 1966, 112-117

TOPIC TAGS: laminar boundary layer, approximation method, incompressible flow, fluid friction

ABSTRACT: The Karman-Pohlhausen momentum integral method is used to analyze the laminar viscous flow of an incompressible fluid in the presence of arbitrary pressure gradients and small suction. The velocity profile is described by a sixth degree polynomial. The integrated form of the momentum equation is given by

$$\frac{df}{dx} = \frac{dU}{dx}\frac{1}{U}(F - 2t^{**}) + \frac{\frac{d^2U}{dx^2}}{\frac{dU}{dx}}f,$$

where t is the suction velocity (nondimensional) and F is the pressure parameter given by $F = 2\zeta - (2+H)f$; where f is given by $f = \frac{dU}{dx}\frac{\delta^{**2}}{\nu}$. Plots of f versus ζ and of f

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ACC NR: AP6036461

versus H indicate that F can be approximated by the almost linear relationship

$$F(f, t^{**}) = A(t^{**}) - B(t^{**}) f - \varepsilon(f, t^{**}) .$$

Substituting this in the momentum integral equation, a quadrature is obtained for f and the various boundary layer parameters calculated for different values of the suction velocity. Orig. art. has: 18 equations and 6 figures.

SUB CODE: 20/ SUBM DATE: 02Sep66/ ORIG REF: 003/ OTH REF: 001

Card 2/2

KOZLOV, L.I.; IVANOV, I.G. (Moskva)

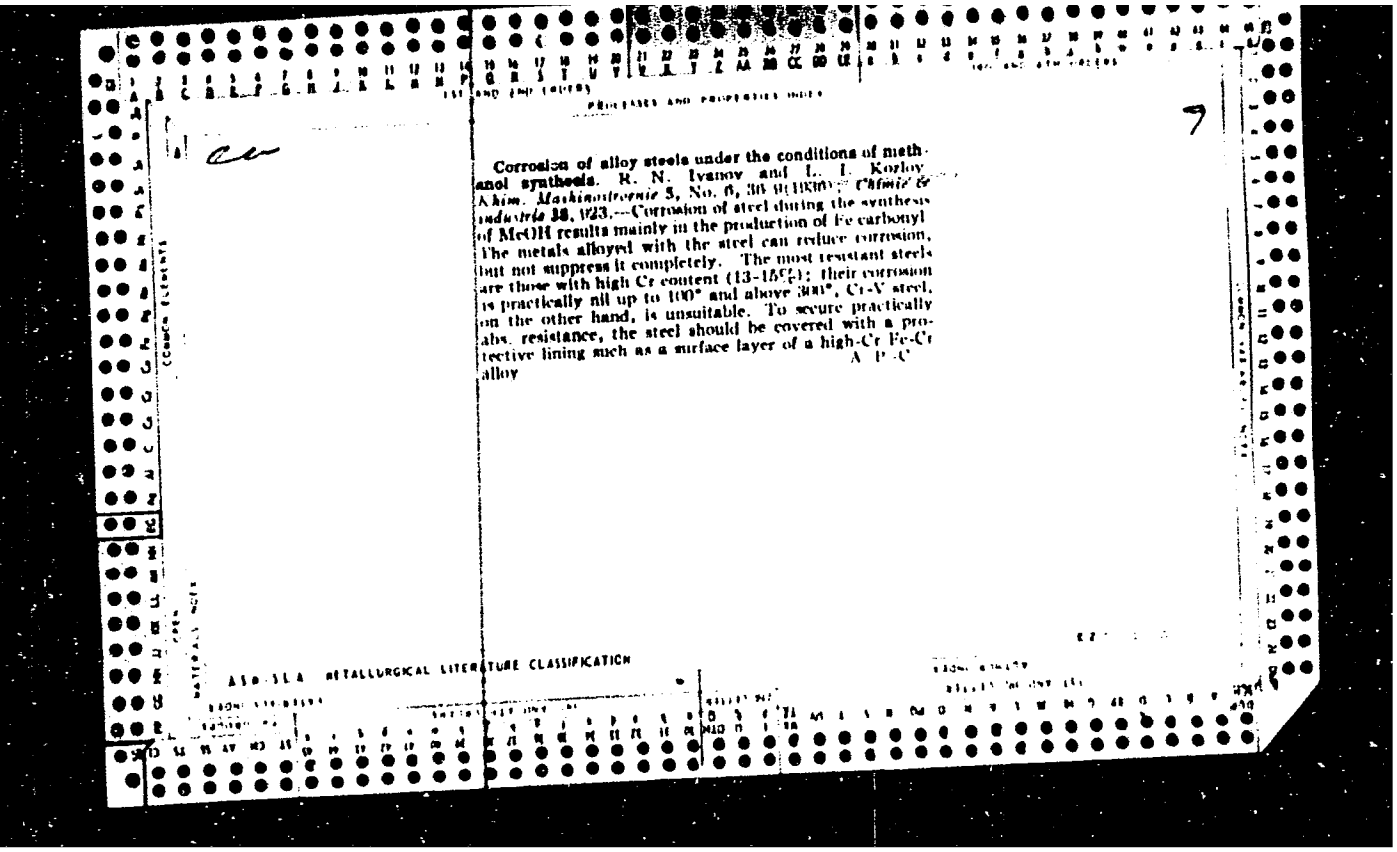
Hearing in riveters. . i prof.zab. no.11:35-38 '61.
(MIRA 14:11)

1. Institut gigiyeny truda i profzabolevaniy AMN SSSR.
(DEAFNESS) (RIVETS AND RIVETING—HYGIENIC ASPECTS)

KOZLOV, L.I.; KOZLOVSKIY, Yu.G.; KALMYKOV, A.S.; ROZIN, M.A., red.; PROKOF'YEVA, L.N., tekhn. red.

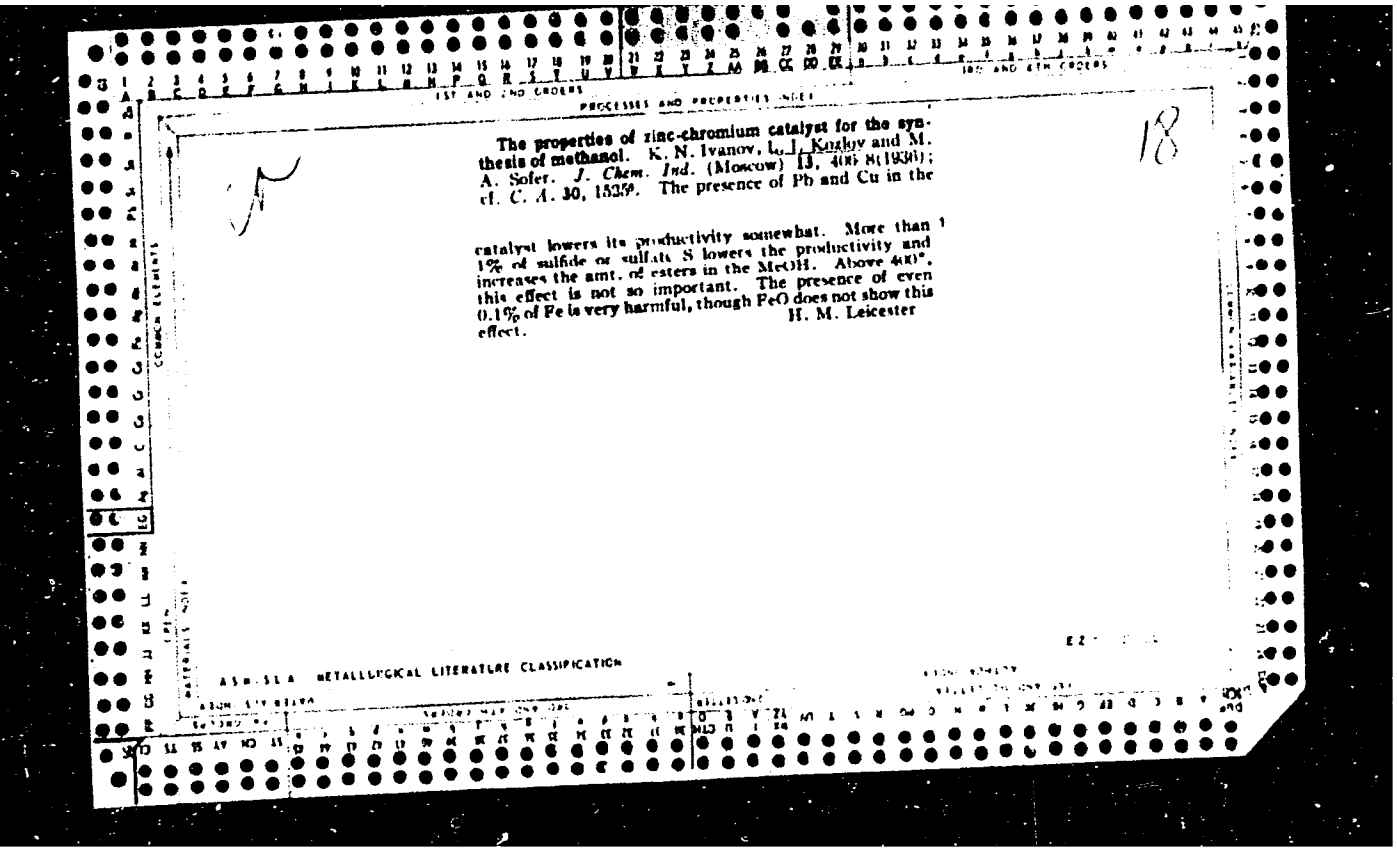
[Handbook on practical exercise in the mechanization of production processes in animal husbandry] Praktikum po mekhanizatsii proizvodstvennykh protsessov v zhivotnovodstve. Moskva, Sel'khozizdat, 1963. 271 p. (MIRA 17:1)

(Stock and stockbreeding--Equipment and supplies)
(Farm mechanization--Study and teaching)



Corrosion of alloy steels under the conditions of methanol synthesis. R. N. Ivanov and L. I. Kozlov. *Khim. Mashinostroenie* 5, No. 6, 30 (1936). *Chimie & Industrie* 38, 923.—Corrosion of steel during the synthesis of MeOH results mainly in the production of Fe carbonyl. The metals alloyed with the steel can reduce corrosion, but not suppress it completely. The most resistant steels are those with high Cr content (13-18%); their corrosion is practically nil up to 100° and above 300°. Cr-V steel, on the other hand, is unsuitable. To secure practically abs. resistance, the steel should be covered with a protective lining such as a surface layer of a high-Cr Fe-Cr alloy

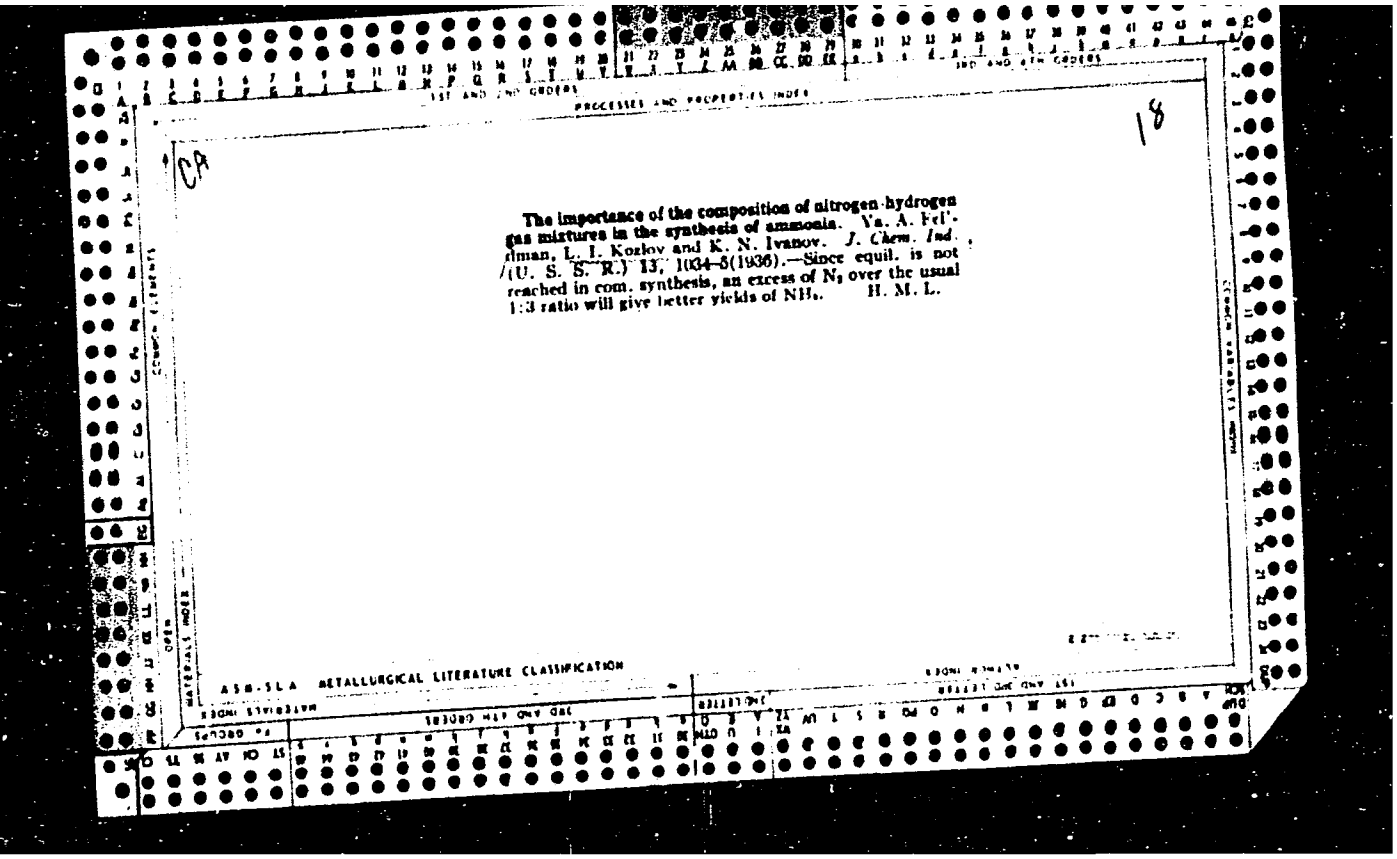
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

The properties of zinc-chromium catalyst for the synthesis of methanol. K. N. Ivanov, L. J. Kozlov and M. A. Sofer. *J. Chem. Ind.* (Moscow) 13, 408-8(1936); cf. *C. A.* 30, 1525⁹. The presence of Pb and Cu in the catalyst lowers its productivity somewhat. More than 1% of sulfide or sulfate S lowers the productivity and increases the amt. of esters in the MeOH. Above 400°, this effect is not so important. The presence of even 0.1% of Fe is very harmful, though FeO does not show this effect.
H. M. Leicester

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

18

The importance of the composition of nitrogen-hydrogen gas mixtures in the synthesis of ammonia. Va. A. Fel'dman, L. I. Kozlov and K. N. Ivanov. *J. Chem. Ind.* (U. S. S. R.) 13, 1034–8(1936).—Since equil. is not reached in com. synthesis, an excess of N_2 over the usual 1:3 ratio will give better yields of NH_3. H. M. L.

KRASOTSKIY, A.V.; KOZLOV, L.I.; AZHEL', I.Ya.; DMITRIYEV, S.K.; TITEL'MAN, I.G.; TIMONIN, S.V.

Utilizing the heat of compressed gas to heat boiler feed water. Suggestion by A.V.Krasotskii and others. Prom.energ. 11 no.4:23-25 Ap '56. (Waste heat) (Hot-water supply) (MIRA 9:7)

30690
S/152/61/000/012/002/002
B126/B101

11.0130

AUTHORS: Panchenkov, G. M., Yakovlev, V. I., Kozlov, L. L., Zhuravlev, G. I., Gol'din, V. A., Ryabukhin, Yu. S.

TITLE: Radiation thermal cracking of gas-oil from Romashki petroleum

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, no. 12, 1961, 99 - 101

TEXT: The effect of gamma radiation on the cracking of gas-oil, F. B. P. 300 - 345°C, from Romashki petroleum has been studied. For the experiments a gamma unit, K-18000 (K-18000), was used, and the dose was maintained constant at 100 r/sec.; the temperatures were 400 and 425°C, the maximum dose was 5 Mr, and the experiment took 14 hr. It was established that Co^{60} gamma rays intensifies the cracking process considerably, and that the feed is converted twice as rapidly as in thermal cracking. The yield of the lightest fraction, I. B. P 200°C, exceeds that of all other fractions from a dose of 3.5 Mr upward and reaches 30 to 35% of the feed at a dose of 5 Mr. However, the olefin content of this fraction is lower than that of the corresponding fraction in thermal cracking. There are 6 figures and

Card 1/2

30690
S/152/61/000/012/002/002
B126/B101

Radiation thermal crackingof gas-oil ...

5 references: 3 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: Lucchesi P. J., Tarmy B. L., Long R. B., Baeder D. L., Longwell J. P., "Ind. Eng. Chem". 50 no. 6, 876. 1958; Pat. USA no. 2516848, 1950.

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. I. M. Gubkina (Moscow Institute of the Petrochemical and Gas Industry imeni Academician I. M. Gubkin)

SUBMITTED: August 14, 1961

Card 2/2

KOZLOV, Lev Ivanovich, inzh.; LEVITAN, Solomon Solomonovich, inzh.; KUROCHKIN, Boris Nikolayevich, kand. tekhn.nauk; CHERNENKO, Mikhail Avksent'yevich, inzh.; KUDRIN, Viktor Aleksandrovich, kand.tekhn. nauk; TARSHIS, D.M., red. izd-va; ATTOPOVICH, M.K., tekhn. red.

[Use of natural gas in open-hearth furnaces]Primenenie prirodnogo gaza v martenovskikh pechakh. [By] L.I.Kozlov i dr. Moskva, Metallurgizdat. 1962. 158 p. (MIRA 15:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki (for Kurochkin). 2. Gosudarstvennyy soyuznyy proyektnyy institut Ministerstva chernoy metallurgii (for Kozlov, Levitan, Chernenko, Kudrin).
(Open-hearth furnaces) (Gas, Natural)

PANCHENKOV, G.M.; YAKOVLEV, V.I.; KOZLOV, L.L.; ZHOROV, Yu.M.; KUZOVKIN, D.A.

Activation of an aluminosilicate catalyst by protons and gamma rays of Co^{60}. Zhur.fiz.khim. 36 no.5:1113 My '62. (MIRA 15:8)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti.
(Aluminosilicates) (Catalysis) (Radiation)

L 41364-66 EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) JD/JAJ/RM
ACC NR: AP6022487 (A) SOURCE CODE: UR/0064/66/000/004/0037/0040

AUTHOR: Semenova, T. A.; Markina, M. I.; Shteynberg, B. I.; Kozlov, L. I.; Mayorov, I. K.

ORG: none

TITLE: Low-temperature catalyst for the carbon monoxide conversion process

SOURCE: Khimicheskaya promyshlennost', no. 4, 1966, 37-40

TOPIC TAGS: carbon monoxide, industrial catalyst, HYDROGEN, WATER VAPOR

ABSTRACT: The paper discusses the properties of a low-temperature catalyst, developed at GIAP, for the conversion of carbon monoxide and water vapor into hydrogen. The main components of the catalyst are compounds of zinc, chromium, and copper. The presence of sulfur compounds in the gas rapidly reduces the catalyst's activity. Long-term tests showed the operation of the catalyst to be stable over a period of one year. A gradual decrease in activity is due not only to poisoning with sulfur compounds, but also, as indicated by x-ray diffraction analysis, to a gradual recrystallization of the catalyst. The catalyst was then tested in a pilot plant unit with a capacity of 1000 m^3 of gas per hour. The results permit the authors to recommend the industrial use of the low-temperature catalyst studied. Orig. art. has: 7 tables.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 007

Card 1/1 UDC: 661.961.5:66.097.3-974

L 00694-67 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)
ACC NR: AP6005354 (N) SOURCE CODE: UR/0413/66/000/001/0094/0095

AUTHORS: Suvorov, V. P.; Kozlov, L. I.; Yanbukhtin, I. R.; Makarevich, O. P.

ORG: none

TITLE: A device for the automatic control of mass flow. Class 42, No. 177648 [announced by Scientific Research Institute of Thermal Power Engineering Instrument Manufacture (Nauchno-issledovatel'skiy institut teploenergeticheskogo priborostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 94-95

TOPIC TAGS: flow regulator, flow measurement, flow control, fluid flow, automatic control design

ABSTRACT: This Author Certificate presents a device for automatic control of mass flow. The device contains a sensitive element made in the form of a single impeller rotating with a speed proportional to the volume flow, capable of being displaced along the axis by an amount proportional to the velocity head of the flow. The device also has a measuring instrument (see Fig. 1). The design increases the precision of the measurement accuracy in operation and provides the capability of measuring reversible flows. The axes of the impeller are kinematically connected with a power converter. This power converter creates a force which compensates the axial movement of the impeller. The ratio of the signals (proportional to the compensating force

Card 1/2 UDC: 681.121.531.751.3

L 00694-67

ACC NR: AP6005354

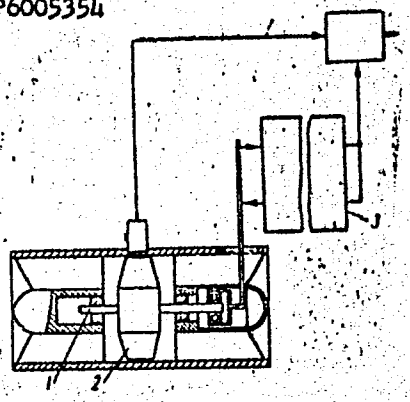


Fig. 1. 1 - impeller axes; 2 - force converter; 3 - impeller

and to the impeller rotation speed) is used as the measure of the mass flow. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 22Jul64/

Card 2/2 mjs

ACC NR: AP7001364 (A) SOURCE CODE: UR/0413/66/000/021/0031/0031

INVENTORS: Ivanovskiy, F. P.; Shteynberg, B. I.; Semenova, T. A.; Markina, M. I.; Kozlov, L. I. Shutov, Yu. M.

ORG: none

TITLE: A catalyst for gas purification. Class 12, No. 187736 [announced by State Scientific Research and Design Institute of the Nitrogen Industry and of Organic Synthesis Products (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti i produktov organicheskogo sintesa)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 31

TOPIC TAGS: catalysis, industrial catalyst, gas, zinc oxide, chromium oxide, copper oxide, magnesium oxide, manganese oxide, aluminum oxide, titanium oxide, acetylene, oxygen, nitrogen oxide

ABSTRACT: This Author Certificate presents a catalyst for gas purification. The catalyst contains hydrogen and consists of oxides of zinc, chromium, and copper with admixtures of oxides of magnesium, manganese, aluminum, and titanium. To increase its stability and its activity in freeing gases from acetylene, oxygen, and nitrogen oxides, the oxides of zinc, chromium, and copper are taken in the proportions ZnO : Cr_2O_3 : CuO = 1.0 to 0.05 : 10.0 to 0.03 : 10.0. Each admixture of the oxides

Card 1/2 UDC: 66.097.3:66.074.3

ACC NR: AP7001364

of magnesium, manganese, aluminum, and titanium may constitute 0.05--15.0% of the basic catalyst composition. Prior to its use, the catalyst may be treated with a hydrogen-containing gas at a temperature of 225--275C.

SUB CODE: 07/ SUBM DATE: 14Apr64

Card 2/2

PANCHENKOV, G.M.; YAKOVLEV, V.I.; KOZLOV, L.L.; ZHURAVLEV, G.I.; GOL'DIN, V.A.; RYABUKHIN, Yu.

Radio-thermal cracking of gas oil of Romashkino petroleum. Izv. vys. ucheb. zav.; neft' i gaz 4 no.12:99-101 '61. (MIRA 16:12)

PANCHENKOV, G.M.; KOZLOV, L.L.; YAKOVLEV, V.I.; KATSOBASHVILI, V.Ya.; VASIL'YEV, L.A.; RYABUKHIN, Yu.S.

Polymerization of amylenes under the action of high-energy electrons. Izv. vys. ucheb. zav.; neft' i gaz 5 no.1:57-58 '62. (MIRA 16:11)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M. Gubkina.

ACCESSION NR: AT4008703 S/2982/63/000/044/0210/0213

AUTHOR: Panchenkov, G. M.; Yakovlev, V. I.; Kozlov, L. L.; Zhuravlev, G. I.

TITLE: Radiation thermal cracking of petroleum fractions

SOURCE: Moscow. Institut neftekhimicheskoy i gazovoy promy*shlennosti. Trudy*, no. 44, 1963. Neftekhimiya, pererabotka nefti i gaza, 210-213

TOPIC TAGS: cracking, petroleum product cracking, thermal cracking, radiation cracking, radiation thermal cracking, gamma irradiation, gas oil radiation cracking, petroleum product irradiation, gasoline fraction irradiation, petroleum refining, petroleum cracking, radiation cracking

ABSTRACT: Gas oil from Romashkinskaya petroleum (fraction 300-345C) was irradiated (100 r/sec) at temperatures of 400 and 425C. Another series of experiments employed the 350-500C fraction of the same petroleum, a radiation dosage of 92 r/sec and temperatures of 375 and 390C. The designations "RTC" and "HC" are used here to indicate heat cracking processes with and without the use of radiation, respectively. The authors found that radiation accelerates the decomposition of the original gas oil by 50 to 100% (see Figs. 1 and 4 in the Enclosure). The yield of gasoline fractions showed preferrable patterns for the 300-345C fraction at 425C and radiation levels above 3500 r, as well as for the other fraction at 390C and

Card 1/2

ACCESSION NR: AT4008703

levels above 3000 r (see Figs. 2 and 3 in the Enclosure). The content of olefins in gasoline fractions is lower for RTC than in corresponding fractions for HC. Orig. art. has: 4 graphs.

ASSOCIATION: INSTITUT NEFTEKHIMICHESKOY I GAZOVOY PROMY*SHLENNOSTI, MOSCOW (Institute for petroleum chemistry and the gas industry)

SUBMITTED: 00 DATE ACQ: 16Jan64 ENCL: 04

SUB CODE: FL NO REF SOV: 006 OTHER: 002

Card 2/2

PANCHENKOV, G.M.; YAROVLEV, V.I.; [illegible]; ZHUKATLAV, G. [illegible].

Radiation-thermal cracking of oil fractions. Trudy MINKhiGP no.44:210-213 '63. (MIRA 18:5)

SUB CODE: GC, MP ENCL: 00
Card 1/1 jfe

KOZLOV, L. M.

USSR/Miscellaneous - Foundry processes

Card 1/1 : Pub. 61 - 18/23

Authors : Kozlov, L. M.

Title : Casting of rollers for pulley blocks

Periodical : Lit. proizv. 4, page 29, July 1954

Abstract : Brief report on the method of casting rollers for pulley blocks is presented. Drawing.

Institution : ...

Submitted : ...

KOZLOV, L.M.; FINK, E.F. (Kazan')

Condensation of nitroparaffins with olefins containing an activating group. Report No.2. Trudy KKHTI no.21:163-166 '56. (MIRA 12:11)
(Paraffins) (Olefins)

15.8120

27219
S/081/61/000/014/027/030
B105/B202

AUTHORS: Kozlov L. M., Voskresenskiy V. A., Burmistrov V. I.

TITLE: Problem of polymer plastification by means of some nitrocompounds of the aliphatic and alicyclic series

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 14, 1961, 616, abstract 14Ш 33 (Tr. Kazansk. khim.-tekhnol. in-ta, 1959, vyp. 26, 42 - 47)

TEXT: The investigation of the plasticizing effect of the nitrocompounds of the aliphatic and alicyclic series on polyvinyl chloride showed that only substances with ring structure, especially with 6-membered ring, proved efficient. Compounds with open chains either do not combine at all or produce only weak effects. The authors obtained better results with 1-nitromethyl-1-cyclohexanol (I) and with acetyl-1-nitromethyl-1-cyclohexanol (II). The study of the physicochemical properties of the foils which were producedby means of I and II showed a temporary tearing strength of 101.5 and 105.5 kg/cm^2, a relative elongation of 168.0 and

Card 1/2

27219
S/081/61/000/014/027/030
B105/B202

Problem of polymer plastification ...

175.0 %, a hardness of 9.0 and 8.5 kg/cm^2, determined by TShM-2-m (TShM-2-m) (Johns). Foils that had been plasticized by means of I and II are more stable than foils with dibutyl phthalate benzene; their water resistance is, however, lower. Test samples were produced by carefully stirring polyvinyl chloride of the type PB-1 (PB-1) and a plasticizer in a weight ratio of 1 : 1. Subsequently the mixture was subjected to aging at 30 - 40° C during one day. The mass was then heated up to 1000 - 155° C (as depending on the type of the plasticizer) and pressed in metal molds at 150 - 155° C at a pressure of 40 - 50 kg/cm^2. 2.2 - 2.3-mm thick foils were obtained. [Abstracter's note: Complete translation.]

Card 2/2

KOZLOV, L.M.; LIORBER, B.G.

Action of ketenes on some α-nitro alcohols. Trudy KKHTI no.26:48-52 '59. (MIRA 15:5)
(Ketene) (Alcohols)

KOZLOV, L.M.; FINK, E.F.

Condensation of nitro paraffins with 2-chlorocyclohexanone and with 2,6-dibenzalcyclohexanone. Trudy KKHTI no.26:53-58 '59.
(MIRA 15:5)

(Paraffins) (Cyclohexanone)

26184
S/081/61/000/012/008/028
B117/B203

5.3610

AUTHORS: Khannanov, T. M., Kozlov, L. M., Burmistrov, V. I.

TITLE: Production of nitro-olefins

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1961, 197, abstract 12Ж87 (12Zh87). ("Tr. Kazansk. khim.-tekhnol. in-ta", no. 26, 1959, 59-62)

TEXT: The authors studied the dehydration of nitro-alcohols (I) with formation of nitro-olefins. They found that primary (I) are more easily dehydrated than secondary ones. With increasing number of C atoms in the (I) molecule, dehydration is rendered difficult, and the yield in nitro-olefins reduced. A mixture of 1 mole of (I) and 1 mole of phthalic anhydride (may be used repeatedly) is heated in a low vacuum (80-30 mm Hg) at 140°-150°C, and subsequently at 175°-180°C, with simultaneous expulsion of the nitro-olefin by water. In a continuous process, (I) is added in portions during dehydration. The following nitro-olefins were obtained (substance, boiling point in °C/mm, $n^{20}D$): nitro-ethylene, 38-39/80, 1-nitro-propylene-1, 54/28, 1.4559; 2-nitro-propylene, 58/90, 1.4506; 2-nitro-

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26184
S/081/61/000/012/008/028
B117/B203

Production of nitro-olefins

butylene-2, 70/30, 1.4585; 2-nitro-butylene-1, 47/17, 1.4325; $NO_2CH=C(CH_3)$, 55-56/11, 1.4680; 1-nitro-amylene-1, 69-70/12, 1.4518; $NO_2CH=CHCH(CH_3)_2$, 75/23, 1.4487; 3-nitro-amylene-2, 58/10, 1.4534; $NO_2CH=CHCH_2CH(CH_3)_2$, 81-82/12, 1.4515; 2-nitro-hexylene-2, 82.5/10, 1.4530; $NO_2C(CH_3)=CHC(CH_3)_2$, 57/1, 1.4524. [Abstracter's note: Complete translation.]

Card 2/2

30127
S/194/61/000/007/044/079
D201/D305

11.1260 (also 3319)

AUTHORS: Kozlov, L.M., Burminstrov, V.I. and Khannanov, T.M.

TITLE: The effect of ultrasound on nitro-paraffin-carbonyl condensation

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1961, 12, abstract 7 E70 (Tr. Kazansk. khim.-tekhnol. in-ta, 1959, no. 26, 63-66)

TEXT: The effect has been investigated of ultrasound on the condensation reaction of nitro-paraffins with ketones with aldehydes. The mixture in a flat-bottomed beaker was subjected to ultrasonic waves at a frequency of 21.3 kc/s and US intensity 6 W/cm^2. The experiments were carried out with binary mixtures of nitromethane with cyclohexane, acetone and acetaldehyde and 2-nitro propane with cyclohexane. It has been established that the US increases considerably the speed of condensation reaction of aldehydes and ketones with nitroparaffins in the presence of small quantities of bases.

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30127
S/194/61/000/007/044/079
D201/D305

The effect of ultrasound...

No spontaneous reaction of condensation occurs with the US effect. Mixtures of nitro-paraffins and ketones and aldehydes have the output of nitro-alcohols increased when subjected to US. 7 references. [Abstracter's note: Complete translation]

Card 2/2

30209
S/081/61/000/019/036/085
B110/B138

5.3610

AUTHORS: Kozlov, L. M., Burmistrov, V. I., Solodov, A. V.

TITLE: Synthesis of chlorine ethers of nitro alcohols

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 152, abstract 19Zh75 (Tr. Kazansk. khim.-tekhnol. in-ta, no. 29, 1960, 18-19)

TEXT: $RR'C(NO)_2CR''R'''OCH(CH_2OH)CH_2Cl$ (II) is formed by epichlorohydrine (I) with nitro alcohols (molar ratio 3:1) in the presence of H_2SO_4. The following data are presented: R, R', R'', R''', reaction temperature in °C, reaction time, yield of II in %, boiling temperature in °C/mm Hg, n_D^{20}, d_4^{20}: H, H, H, H, 5, 2, 68, 144/3, 1.4710, 1.2591; CH_3, H, H, H, 5, 2, 60, 138/3, 1.4656, 1.3000; C_2H_5, H, H, H, 70, 2, 22, 151/3, 1.4652, 1.2365; H, H, H, C_2H_5, 90, 3, 18, 133/2; 1.4683, 1.2306; H, H, H, CH_3, 70, 2, 24, 125/4, 1.4670, 1.2920; H, H, CH_3, CH_3 (molar ratio 2:1), 100, 4, 10,

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30209

S/081/61/000/019/036/085
Synthesis of chlorine ethers of... B110/B138

128/5, 1.4708, 1.2390. Primary alcohols react with I more readily than secondary ones. Tertiary alcohols react less readily. Reactivity decreases as the molecular weight increases. II are good solvents for alkydal resins. [Abstracter's note: Complete translation.]

X

Card 2/2

S/079/60/030/006/022/033/XX
B001/B055

AUTHORS: Kozlov, L. M., Markovich, Ye. A., and Liorber, B. G.

TITLE: On the Reaction of Nitro-olefins With Acyl Halides

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 6, pp. 1937 - 1941

TEXT: Basing on the publications Refs. 1-5, the authors investigated the reactions of α-nitro-olefins with acyl halides. Unexpectedly, a nitroso-oxim rearrangement of the α-nitro-olefins takes place in this reaction, leading to the acid halides of α-halo-N-acyl hydroxamic acids and separation of the corresponding organic acids according to the general Scheme

$$RCH = CHNO_2 + 2R'COX \longrightarrow RCHX - C(=NOCOR')X + R'COOH.$$

This exothermic reaction occurs readily and gives good yields. It is accelerated by the acid catalysts $ZnCl_2$, $ZnBr_2$, and H_2SO_4. The formation of

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nitroso compounds as intermediates is indicated by the blue-green color of the reaction mixture which disappears towards the end of the reaction. It is assumed that the first step is an addition in the 1,4-position of $(CH_3)_2C = CHNO_2$ (Ref.3) and is followed by addition to the C = N bond and splitting off of the acid. The structure of the acid halides of the α-halo-N-acyl hydroxamic acids was established by hydrolysis of the acid bromide of α-bromo-N-propionyl hydroxamic acid, which gave hydroxylamine hydrobromide, α-hydroxy-isobutyric acid, propionic acid, and hydrobromic acid. All the acid halides of the α-bromo-N-acyl hydroxamic acids turn red on addition of a solution of iron chloride in aqueous alcoholic solution. Tertiary nitro-olefins reacted under similar conditions only with one molecule of acid halide, but the reaction products could not be obtained in analytical purity, since they evidently distill off together with the initial nitro-olefins. The constants and yields of the compounds synthesized are tabulated. There are 1 table and 8 references: 1 Soviet, 2 US, 3 British, 5 German, and 1 French.

On the Reaction of Nitro-olefins With Acyl Halides

S/079/60/030/006/022/033/XX
B001/B055

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskiy institut imeni S. M. Kirova (Kazan' Institute of Chemical Technology imeni S. M. Kirov)

SUBMITTED: February 23, 1959

Card 3/3

5.3830

77525
SOV/80-33-1-34/49

AUTHORS: Voskresenskiy, V. A., Kozlov, L. M.

TITLE: Concerning Plasticization of Polymers

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 1, pp 191-195 (USSR)

ABSTRACT: The effect of the chemical composition and structure of plasticizers on the plasticization of poly (vinyl chloride) was studied by determining some of the mechanical and chemical constants and aging resistance of the plasticized poly (vinyl chloride). A short review of previous work in this field is given. The authors propose a new method for calculating the composition of the plasticizing mixture by taking into account the length of molecular chains of polymer and plasticizer. For example: it was found (from the actual distance between the atoms in the polymer chain and in the plasticizer molecule), that two molecules of tributyl phosphate (TBF) block

Card 1/1

a portion of polymer chain of 9 links; one molecule of TBF blocks a portion of polymer chain of average molecular weight of 281.25; thus, an elementary calculation led to the following ratio between the polymer and plasticizer, 100:98.8 parts by weight, respectively.

Calculated elemental of the components

a = conditional No of composition
b = ratio of the components by the weight
c = resin PB-1
d = plasticizers
e = dibutyl phosphate (DBF)
f = tricresyl phosphate (TKF)
g = sovol
h = TBF
i = dibutyl sebacate (DBS)

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a	b	c	d				
			e	f	g	h	i
1	100	98.8	—	—	—	—	—
2	100	—	107.05	—	—	—	—
3	100	—	—	175.2	—	—	—
4	100	—	—	—	77.5	—	—
5	100	—	—	—	—	50.5	—

Some of the results of experiments are shown in Table 2.

Table 2.
Hardness of films made from poly (vinyl chloride) and equimolar parts of different plasticizers

a = conditional Nr of the compostion
b = plasticizer
c = ratio of polymer, plasticizer and stabilizer
d = harness of films (kg/cm^2)

a	b	c	d
1	ДБФ	100 : 98.8 : 1.5	5.0
2	ТКФ	100 : 107.05 : 1.5	7.5
3	Совол	100 : 175.2 : 1.5	29.0
4	ТБФ	100 : 77.5 : 1.5	11.0
5	ДБС	100 : 50.5 : 1.5	19.25

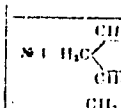
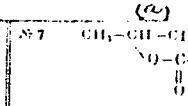
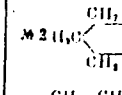
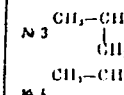
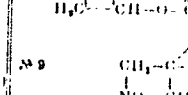
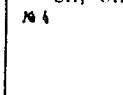
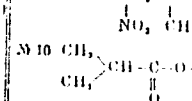
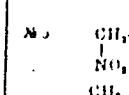
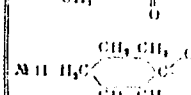
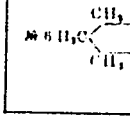
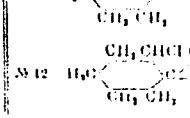
The hardnesses of films composed of 80 parts by weight of different plasticizers and 100 parts of polymer are:

Composition Nr	1	2	3	4	5
Hardness (kg/cm^2)	7.04	9.0	41.5	10.4	29.55

Equal volumes of different plasticizers affect the hardness of films similarly (as shown above). To show the dependence of plasticization on the chemical composition and structur of plasticizers, the compounds shown in Table 3 were tested as plasticizers.

Table 3. Plasticizers of nitrocompound type and their derivatives of aliphatic and cyclic structure

a = formula
b = b.p. (in °C) and residual pressure (in mm Hg) respectively

(a)	(b)	(a)	(b)
№ 1 	119—121, 12	№ 7 	98,5—99,5, 12
№ 2 	128—131,5, 10	№ 8 	121—123, 13
№ 3 	77—78, 10	№ 9 	88,0, 20
№ 4 	128—131,5, 10	№ 10 	91, 10 мм
№ 5 	85—88, 11,5	№ 11 	98—98,5, 3 мм
№ 6 	109—111, 4	№ 12 	130, 10 мм

Card 5/7

According to their degree of compatibility with poly (vinyl chloride), the above compounds form the following series: Nr 12, Nr 2, Nr 1, Nr 6, Nr 11, Nr. 8. Nr 12 has the highest and Nr 8 the lowest compatibility. It was found that only cyclic compounds with six membered rings are compatible with poly (vinyl chloride) and form films with desireable physical and chemical characteristics (see Table 4).

Table 4. Physical and chemical characteristics of plasticizers 12, 2, 1

a = plasticizer Nr
b = ratio of poly (vinyl chloride), plasticizer and stabilizer
c = tensile strength (kg/cm^2)
d = elongation

(a)	(b)	(c)	(d)
12	100 : 100 : 1.5	166.8	203.0
2	100 : 100 : 1.5	105.55	175.0
1	100 : 100 : 1.5	101.50	168.04

Card 6/7

Concerning Plasticization of Polymers

77525
SOV/80-33-1-34/49

There are 4 tables; and 15 references, 3 U.S., 1 French, 11 Soviet. The U.S. references are: Stay Kney, J. Polymer Sci., 2, 237 (1948); Doolittle, J. Polymer Sci., 2, 124 (1947); Cash, Mod. Plastics, 21, 119 (1944).

SUBMITTED: April 13, 1959

Card 7/7

KOZLOV, L.V.; KURASHEV, V.V.

On the boundary between two phases. Priroda 50 no.7:99-101 Jl '61. (MIRA 14:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR, Moskva.
(Polymers and polymerization)

KOZLOV, L.M.; KHANNANOV, T.M.; ABRAMOVICH, L.K.

Synthesis of monosubstituted 2-nitroalkyl ethers of ethylene glycol. Trudy KKHTI no.30:92-95 '62. (MIRA 16:10)

KOZLOV, L.M.; BURMISTROV, V.I.; SOLODOV, A.V.

Synthesis of nitroalkyl ethers of propylene glycol. Trudy KKHTI no.30:96-100 '62. (MIRA 16:10)

KOZLOV, L.M.; KHANNANOV, T.M.; SAFIN, R.R.; LEYTMAN, L.D.; FATKHUTDINOVA, Sh.G.

Plasticization of rubber compounds with nitroparaffins and their derivatives. Trudy KKHTI no.30:101-108 '62. (MIRA 16:10)

KOZLOV, L.M.; DRABKINA, L.S.; BURMISTROV, V.I.

Polymerization of 1-nitro-1-propylene. Trudy KKHTI no.30:109-115 '62. (MIRA 16:10)

KOZLOV, L.M.; BURMISTROV, V.I.; SHARNINA, A.P.

Nitroalkyd resins. Report No.1: Condensation polymerization of adipic acid with nitrodiols and nitrotriols. Trudy KKHTI no.30: 128-135 '62.

Nitroalkyd resins. Report No.3: Condensation polymerization of glutaric and pimelic acids with nitrodiols and nitrotriols. 144-147 (MIRA 16:10)

KOZLOV, L.M.; BURMISTROV, V.I.; KHALITOVA, N.N.

Nitroalkyd resins. Report No.2: Synthesis of resins based on polyhydric nitro alcohols in maleic acid. Trudy KKHTI no.30: 136-143 '62. (MIRA 16:10)

KOZLOV, L.M.; BURMISTROV, V.I.; ABRAMOVICH, L.K.

Nitroalkyd resins. Report No.4: Polynitroesters based on terephthalic and isophthalic acids. Trudy KKHTI no.30:148-154 '62. (MIRA 16:10)

KOZLOV, L.M.; BURMISTROV, V.I.; KHANNANOVA, M.N.

Nitroalkyd resins. Report No.5: Synthesis of nitroalkyd resins based on phthalic and 3-nitrophthalic acids. Trudy KKHTI no.30: 155-160 '62. (MIRA 16:10)

KOZLOV, L.M.; BURMISTROV, V.I.; KHANNANOVA, M.N.; ABRAMOVICH, L.K.; SHARNINA, A.P.; BOGDANOV, B.L.

Nitroalkyd resins. Report No.6: Condensation polymerization of nitrodiols and nitrotriols with oxalic, malonic, and succinic acids. Trudy KKHTI no.30:161-169 '62. (MIRA 16:10)

ACCESSION NR: AP3001462 S/0079/63/033/005/1478/1485

AUTHOR: Kozlov, L. M.; Koroleva, L. A.; Markovich, Ye. A.

TITLE: Nitroethers of ortho silicic acid

SOURCE: Zhurnal obshchey khimii, v. 33, no. 5, 1963, 1478-1485

TOPIC TAGS: nitroethers, ortho silicic acid, alkyl chlorosilanes, silanes

ABSTRACT: A method for making nitroethers or ortho silicic acid involves reacting alkyl chlorosilanes with nitroalcohols at room or lower temperatures. Product nitroethers, obtained in a 30-80% yield are more stable to hydrolysis than corresponding non-nitrated compounds. They are heat stable to about 200°, high-boiling and water-insoluble. 40 new silane compounds were synthesized and analyzed. Orig. art. has: 1 table.

ASSOCIATION: none

SUBMITTED: 27Apr62 DATE ACQ: 17Jun63 ENCL: 00

SUB CODE: 00 NO REF SOV: 006 OTHER: 001

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L 17902-63 EPF(c)/EWP(j)/EWT(m)/BDS AFFTC/ASD Pr-4/Pc-4 RM/WW
ACCESSION NR: AP3003771 S/0080/63/036/006/1300/1303

AUTHORS: Voskresenskiy, V. A.; Kozlov, L. M.; Karaseva, M. V. 67

TITLE: Some new plasticizers for polyvinylchloride 15

SOURCE: Zhurnal prikladnoy khimii, v. 36, no. 6, 1963, 1300-1303

TOPIC TAGS: polyvinylchloride, plasticizer, nitrocompounds

ABSTRACT: The studies of a plasticizer's effect on polyvinylchloride of some nitrocompounds and their derivatives show that it does not depend equally on the chemical structure of the plasticizers and occurs only after reaching a definite chain length; and that silicon-containing plasticizers have a small consistency with polymer; they give stiff films and have an inclination for migration to the surface during storage and exploitation. It has also been shown that a plasticizer of linear structure with insignificant side furcations and plasticizer of the furcative structure with long side chains combine well with polyvinylchloride; they don't have a tendency towards migration during storage and give maximum plasticizing effect with sufficiently high stability towards water and gasoline. Orig. art. has: 2 tables.

1/2/

Card

KOZLOV, Leonid Mikhaylovich; BURMISTROV, Vasiliy Ivanovich; NOVIKOVA, S.S., prof., red.

[Nitrated alcohols and their derivatives] Nitrospirty i ikh proizvodnye. Kazan', Kazanskii khimiko-tekhnologicheskii in-t im. S.M.Kirova, 1960. 179 p. (MIRA 17:4)

ACCESSION NR: AP4032572 S/0190/64/006/004/0722/0725

AUTHORS: Solodova, N. L.; Kozlov, L. M.; Burmistrov, V. I.

TITLE: Catalytic synthesis of nitropolyurethanes by copolymerization of diisocyanates with nitrodiols and nitrotriols

SOURCE: Vysokomolek. soyedin., v. 6, no. 4, 1964, 722-725

TOPIC TAGS: polymerization, polymer, copolymerization, copolymer, urethane nitrourethane, isocyanate, polyol, nitropolyol, sulfonic acid catalyst, toluenesulfonic acid, zinc chloride catalyst

ABSTRACT: The present investigation deals with copolymerization of hexamethylenediisocyanate (HMDIC) and 2,4-toluilenediisocyanate (TDIC) with 2-methyl-2-nitropropanediol-1,3 (MNPD), 2-ethyl-2-nitropropanediol-1,3 (ENPD), nitroisobutylglycerine (NIBG), and 2-oxymethyl-2-nitrohexandiol-1,3 (OMNHD) in the presence of various catalysts. In view of the negative results obtained in ethyl acetate solution without a catalyst, and a poor yield (30-35%) and poor polymer quality obtained with triethylamine, the authors performed tests with acid catalysts. In the presence of 1% zinc chloride the yield of nitropolyurethane from HMDIC and

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ACCESSION NR: AP4032572

NNPD at 50C increased in 4 hours to 95%. A substantial catalytic effect was also obtained from HMDIC and TDIC with ENPD, from HMDIC with NIBG, producing a 90% yield at 25C. However, zinc chloride produced a reaction mass of low uniformity, with some of the catalyst remaining in the polymer. In this respect, p-toluenesulfonic acid proved superior to zinc chloride; it produced a polymer with a molecular weight of 5730 (a 98% yield). The copolymerization products of diisocyanates with nitrodiols yielded mostly colorless or slightly yellowish products, soluble in acetone, cyclohexane, dimethylformamide, nitrobenzene, and ethanol, and insoluble in water, benzine, and carbon tetrachloride. It was found that copolymerization of NIBG with equivalent amounts of diisocyanates may produce either linear or tridimensional polymers, while OMNHD yielded only tridimensional products. Orig. art. has: 1 table.

ASSOCIATION: Kazanskiy khimiko-takhnologicheskiy institut im. S. M. Kirova (Kazan Chemicotechnological Institute)

SUBMITTED: 22May63 DATE ACQ: 11May64 ENCL: 00

SUB CODE: GC, MM NO REF SOV: 004 OTHER: 002

Card 2/2

SOLODOVA, N.L.; KOKLOV, I.M.; BURMISTROV, V.I.

Kinetics of the reaction between diisocyanates and alkyl-substituted polyols. Vysokom. soed. 7 no.[illegible] (MIRA 18:12).

1. Kazanskiy khimiko-tekhnologicheskiy institut im. S.M. Kirova.

L 40294-66 EWT(m)/EWP(j)/T IJP(c) RM/WW/JW/JWD

ACC NR: AR6014586 (A) SOURCE CODE: UR/0081/65/000/021/S046/S046

AUTHORS: Kozlov, L. M.; Solodova, N. L.; Burmistrov, V. I.

TITLE: Nitro group-containing polyurethanes. 1. Synthesis of nitropolyurethanes by polymerizing 2,4-toluylenediisocyanate with nitrodiols and nitrotriols

SOURCE: Ref. zh. Khimiya, Abs. 21S282

REF SOURCE: Tr. Kazansk. khim.-tekhnol. in-ta, vyp. 33, 1964, 198-205

TOPIC TAGS: polyurethane, polycondensation, polymer cross linking, polymerization rate

ABSTRACT: Polymerization of toluylenediisocyanate with 2-nitromethylpropanediol-1,3; 2-nitro-2-triol-1,2,3; 2-nitro-2-oxymethylbutanediol-1,3; and 2-nitro-2-oxymethylhexanotriol was investigated. Reaction was conducted at temperatures from 18 to 132C in chlorobenzene, dioxane, ethyl acetate, or butyl acetate solution. Optimal ratio of reagents to each other is 1:1, ratio of reagents : solvent = 1:2. It was found that the rate and general course of the polycondensation reaction is analogous to those of triols not substituted with nitro groups, however, the molecular weight of the obtained polymers is lower. Polymers produced by nitrodiols at low temperatures are soluble in acetone and ethyl acetate and are precipitated from solutions with benzene and petroleum ether. Increase of the reaction temperature leads to an increase of molecular weight from 1500 to 10 000. In the case of triols, this is accompanied by formation of three-dimensional cross-linked polymers. Soluble polynitrourethanes form transparent films highly adhesive to wood, glass, and metal. V. Kopylov [Translation of abstract]

Card 1/1 mlp SUB CODE: 11,07

ACC NR: AR6020539 (A) SOURCE CODE: UR/0081/66/000/003/S043/S044

AUTHOR: Solodova, N. L.; Kozlov, L. M.; Burmistrov, V. I.

TITLE: Nitro-containing polyurethanes. Part 2. Synthesis of nitropolyurethanes by polymerization of hexamethylene diisocyanate with nitrodiols and nitrotriols.

SOURCE: Ref zh. Khim, Part II, Abs. 3S258

REF SOURCE: Tr. Kazansk. khim.-tekhnol. in-ta, vyp. 33, 1964, 206-213

TOPIC TAGS: polyurethane, organic nitro compound, organic isocyanate compound

ABSTRACT: A study of the influence of the conditions prevailing in the [illegible] of polycondensation of hexamethylene diisocyanate with a series of nitrodiols and nitrotriols has shown that the yield and molecular weight of the polymer increase in the series of solvents chlorobenzene - ethyl acetate - dioxane; the optimum ratio of the mixture of reagents to the solvent is 1:2; a further dilution leads to a decrease in the molecular weight and a decrease in the yield of the polymer; at a temperature <50°, the reaction does not take place, and although raising the temperature to >100° increases the yield, it causes the formation of insoluble rubberlike polymers. The optimum reaction time is 6 hr, the reagent ratio being 1:1. Nitrodiols form soluble linear polymers under mild conditions, and under more drastic ones (temperature 100°, excess diisocyanate, high concentration of reagents or absence of solvent), cross-linked rubberlike products or friable powders insoluble in organic solvents and decomposing on heat-

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ACC NR: AR6020539

ing above 130-150°. The stability and heat resistance of the polymers increase somewhat on multiple purification or repricipitation or extraction with boiling solvents. For Report No. 1, see Ref. zh. Khim., 1965, 21S282. V. Kopylov. [Translation of abstract].

SUB CODE: 07,11

Card 2/2 nec

L 36175-66 EWT(m)/EWP(j) WW/JW/RM

ACC NR: AP6014263 SOURCE CODE: UR/0153/66/009/001/0063/0064

AUTHOR: Kozlov, L. M.; Burmistrov, V. I.; Telkova, T. F.

ORG: Department of Chemistry and Petroleum and Gas Technology, Kazan Chemical Engineering Institute im. S. M. Kirov (Kafedra khimii i tekhnologii nefti i gaza, Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Synthesis of nitroalkyl esters of boric acid

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 9, no. 1, 1966, 63-64

TOPIC TAGS: borate, boric acid, alcohol, organic nitro compound

ABSTRACT: The reaction of boric anhydride with a series of primary, secondary, and tertiary nitro alcohols was studied for the first time. The alcohols used were 2-nitroethanol, 2-nitro-1-propanol, 1-nitro-2-propanol, 2-nitro-2-methyl-1-propanol, 2-nitro-3-butanol, 1-nitro-2-pentanol, 2-nitro-2-methyl-3-butanol, 3-nitro-2-pentanol, 1-nitro-4-methyl-2-pentanol, and 1-nitromethyl-1-cyclohexanol. Primary alcohols reacted with boric anhydride more readily than secondary ones. The reaction of tertiary alcohols was the most difficult. Under the same conditions, the yield of nitroalkyl borates decreases with increasing molecular weight of the nitro alcohol. The tris-nitroalkyl borates obtained are very sensitive to hydrolysis and hydrolyze in moist air, but are stable when heated to 200-220°C. Orig. art. has: 2 tables.

SUB CODE: 07/ SUBM DATE: 09Dec63/ ORIG REF: 002

UDC: 547.434:542.951.3

Card 1/1

ACC NR: AR6015912 (A) SOURCE CODE: UR/0081/65/000/022/S027/S027

AUTHOR: Kozlov, L. M.; Burmistrov, V. I.; Drabkina, L. S.

40
B

TITLE: On the polymerization of 3-nitro-1,3-pentadiene

SOURCE: Ref. zh. Khimiya, Abs. 22S160

REF SOURCE: Tr. Kazansk. khim.-tekhnol. in-ta, vyp. 33, 1964, 227-231

TOPIC TAGS: polymerization, organic nitro compound, pentadiene

ABSTRACT: The bulk polymerization of 3-nitro-1,3-pentadiene (I) was studied in the presence of saturated solutions of KOH and $KHCO_3$, $TiCl_4$, $(C_2H_5)_4Pb$, $AlCl_3$, CH_3ONa, dimethylaniline, triethylamine, pyridine, and also in the emulsion of a 0.5% aqueous solution of polyvinyl alcohol in the presence of 0.5% benzoyl peroxide. Pure I is stable during storage in the dark for 3-6 months, and polymerizes in sunlight, forming a viscous brown resin of molecular weight 300-800. Under the influence of admixtures of mineral bases, metal halides, or $(C_2H_5)_4Pb$, I converts in 30-50% yield into dark-colored resins of molecular weight 400-900. I polymerizes neither in emulsion nor in bulk in the presence of dimethylaniline. Triethylamine and pyridine in the amount of 0.5-2.0% catalyze the polymerization of I, forming in 10 days at about 20° a mixture of 40-50% of an ether-soluble liquid dark-brown resin of mol. wt. 600-800 and 30-45% of a light-brown solid product with m. p. 130-145° and mol. wt. 2000-2100.

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ACC NR: AR6015912

The most effective catalyst for the polymerization of I of those studied was Na methoxide, which causes an exothermic reaction and leads to the formation, in 3 days at 0-5° or in 10-12 hr at 50-70°, of a mixture of 30-40% of a liquid resin with mol. wt. 500-800 and 40-60% of a solid product with m. p. 130-160° and mol. wt. 2500-3000. When the reaction is carried out at a low temperature, a more weakly colored polymer is obtained. V. Kopylov. [Translation of abstract]

SUB CODE: 07

ACC NR: AR6015909 (A) SOURCE CODE: UR/0081/65/000/022/S014/S014

AUTHOR: Kozlov, L. M.; Burmistrov, V. I.; Sharnina, A. P.

TITLE: Nitroalkyd resins. Report No. 7. Polycondensation of 2-nitro-1,3-propanediol with dibasic acids

SOURCE: Ref. zh. Khimiya, Abs. 22S85

REF SOURCE: Tr. Kazansk. khim.-tekhnol. in-ta, vyp. 33, 1964, 232-235

TOPIC TAGS: organic nitro compound, dicarboxylic acid, polycondensation

ABSTRACT: The polycondensation of 2-nitro-1,3-propandiol (I) with chlorides (C) of seven aliphatic and three aromatic dibasic acids was studied. An equimolar mixture of I and C (0.1 mole each) was heated to 40-50° for aliphatic and to 60° for aromatic C until the start of the reaction, which was kept at 25-30° for 8-10 hr and at 60-70° for 1.5 hr. The polyesters (PE) were purified by multiple reprecipitation with petroleum ether from an acetone solution. The PE obtained were (the initial acid, yield in %, m. p., molecular weight, and general appearance of the PE are indicated): malonic, 51, 45-48°, 1920, dark; succinic, 79, 84-87°, 909, dark; glutaric, 80, 94-97°, 1413, brown; adipic, 77, 28-30°, 2605, brown; pimelic, 71, 32-34°, 1163, clear; azelaic, 80, 47-51°, 2250, brown; sebacic, 65, 47-50°, 2563, brown; phthalic, 52, 70-73°, 600, waxy; 3-nitrophthalic, 55, 29-32°, 1320, waxy; terephthalic, 50, 60-62°, transparent. PE obtained from aliphatic acids with an odd number of C atoms melt at

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higher temperatures than those with an even number of C atoms. For report No. 6, see Ref. zh. Khimiya, 1963, Abs. 12S55. L. Andreyev. [Translation of abstract]

SUB CODE: 07

Card 2/2 H.S

TYURMOREZOV, Viktor Yevgrafovich, inzh.; KIRILOV, Mikhail Mikhaylovich, kand. tekhn. nauk; KOZLOV, Lev Nikolayevich, inzh.; KRUMIN, Ye.A., kand. tekhn. nauk, retsenzent; POZDNYAKOV, L.G., inzh., retsenzent; FEL'DMAN, A.B., inzh., retsenzent; KAZAKOV, A.A., kand. tekhn. nauk, red.; MEDVEDEVA, M.A., tekhn. red.

[Electric power supply to railroad communications, apparatus and automatic control, and remote control systems] Elektropitanie ustroistv sviazi, avtomatiki i telemekhaniki na zheleznodorozhnom transporte. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 215 p. (MIRA 14:11)
(Electric power supply to apparatus)
(Railroads--Electric equipment)

GUTKOVSKIY, Vladimir Antonovich, kandidat tekhnicheskikh nauk; KOZLOV, Leonid Sergeyevich, inzhener; TSYGANKOV, A.Z., inzhener, redaktor; KANDYKIN, A.Ye., tekhnicheskiy redaktor

[Fuel economy for locomotives; experience of locomotive brigades on the Pechora railroad] Ekonomiia topliva na parovozakh; opyt parovoznykh brigad Pechorskoi zheleznoi dorogi. Moskva, Gos. transp. zheleznodorozhnoe izd-vo, 1955. 25 p. (MLRA 9:6)

1.Zamestitel' nachal'nika Pechorskoy zheleznoy dorogi (for Gutkovskiy) 2.Nachal'nik toplivno-teplotekhnicheskogo otdela Pechorskoy zheleznoy dorogi (for Kozlov).
(Locomotives--Fuel consumption)

FRUNZE, T.M.; KORSHAK, V.V.; KOZLOV, L.V.; KURASHEV, V.V.

Phosphorous organic polymers. Part 7: Mixed phosphorus-containing polyamides. Vysokom.soed. 1 no.5:677-681 My '59.
(MIRA 12:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Amides)

5(3)

AUTHORS: Frunze, T. M., Korshak, V. V., Kozlov, L. V. SOV/62-59-3-23/37

TITLE: Investigations in the Field of the Polyamides With Heterogeneous Chains (Iz oblasti geterotsepnykh poliamidov). Communication 9. Production of Polyamides and Polyamide Esters From Bis-Oxazolones (Soobshcheniye 9. Polucheniye poliamidov i poliamidoefirov iz bis-oksazolonov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 3, pp 535-539 (USSR)

ABSTRACT: In the present paper polyamides and polyamide esters were synthesized. Bis-oxazolones were used as initial products. In order to obtain these bis-oxazolones dicarboxylic acids such as the terephthalic and sebacic acid were used. These acids are transformed under the action of phosphorus pentachloride or thionyl chloride into the corresponding diacid chlorides. In the reaction of the latter with a solution of alkali or amino acid N-N'-acyl-bis-(α-amino acids)(Table 1) is formed. By heating these acids with acetic anhydride according to the method described in reference 1 bis-oxazolones were obtained (Table 1). Polyamides and polyamide esters formed due to

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