ZEMSKOV, A.A.; NECHIPURENKO, V.I.

Communist Party during the period of the front attack of socialism. Trudy MTIPP no.20:47-94 '63. (MIRA 17:4)

ACC NR: AP6025595 SOURCE CODE: UR/0413/66/000/013/0033/0033

INVENTORS: Vasil'kovskiy, A. A.; Nechipurenko, V. V.; Sokolenko, V. I.

ORG: none

TITLE: Multilayer film Hall emf detector. Class 21, No. 183248

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 33

TOPIC TAGS: Hall effect, hf component, electromagnetic property

ABSTRACT: This Author Certificate presents a multilayer film Hall emf detector according to Author Certificate No. 119556. To use the detector for measuring high frequency power, capacitors deposited between the current electrodes of neighboring layers are connected in parallel relative to the controlling current in the loops joining the remaining layers of the detector (see Fig. 1).

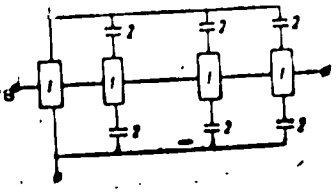


Fig. 1. 1 - detector layers; 2 - capacitors

Orig. art. has: 1 diagram.

SUB CODE: 09/ SUBM DATE: 05Apr65 UDC: 621.317.7

Card 1/1

MECHISTIK, M.M.

Electromagnetic treatment of juice prior to evaporation.
Sakh.prom. 33 no.9:40-42 S '59. (MIRA 13:1)

1. Ryzhavskiy sakharnyy zavod.
(Ryzhevka (Cherkassy Province)--Sugar manufacture)

ANIKIN, Anatoliy Mikhaylovich; BAKHTEYAROV, Vladimir Dmitriyevich; MKCHISTIK, Rosa Petrovna; BUNKOV, V.I., redaktor; KHUDYAKOVA, A.V., redaktor izdatel'stva; BACHURINA, A.M., tekhnicheskiy redaktor

[Manual on the prefabrication of wooden houses] Sprevochnik po zavodskomu izgotovleniiu dereviannykh domov. Moskva, Goslesbumizdat, 1957. 238 p. (MLRA 10:9)
(Buildings, Prefabricated)

NECHISTIK, V. G.

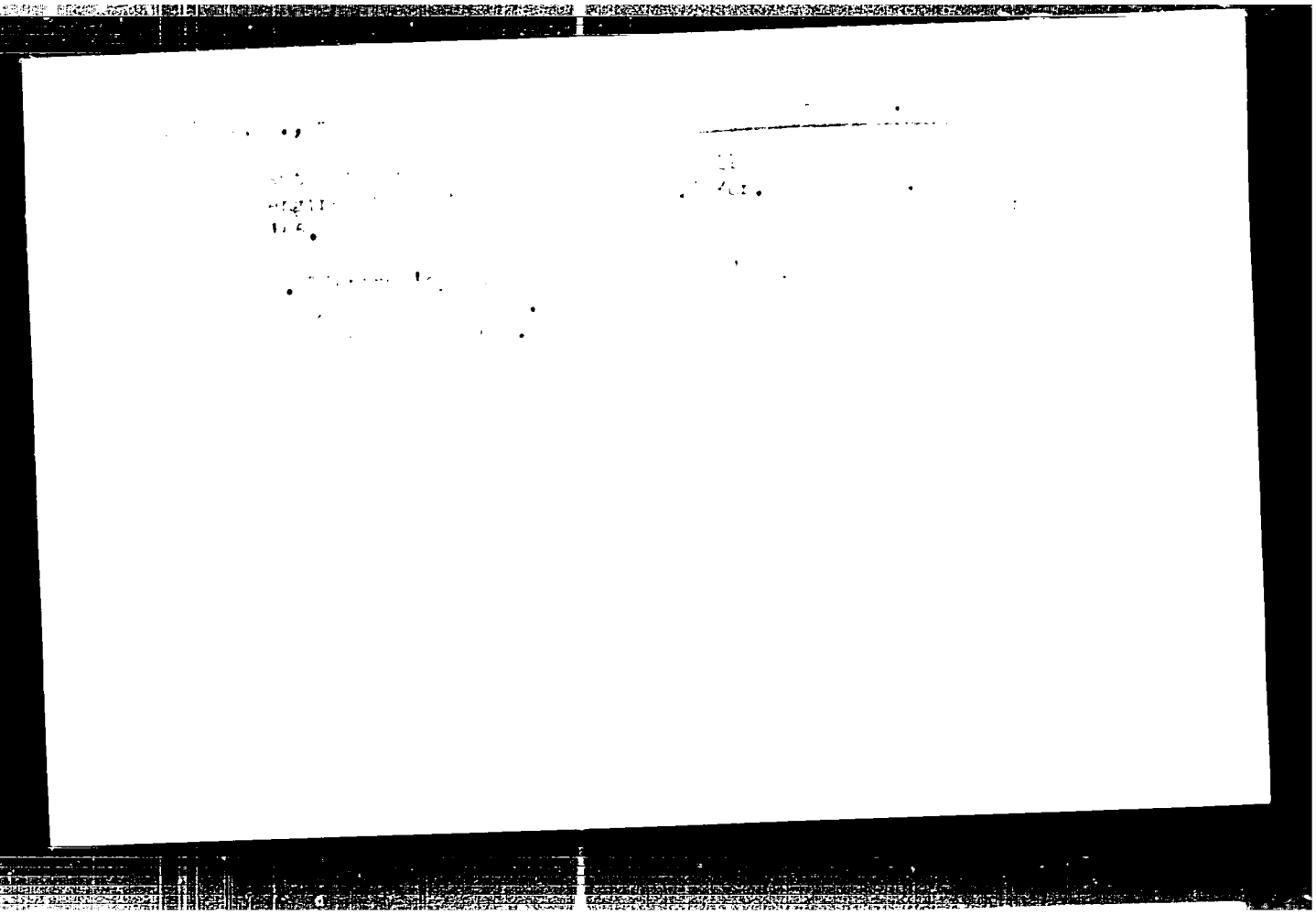
NECHISTIK, V. G. -- "Aspects of the Growth and Productivity of Structural Oak Plantations of Artificial Origin." Min Higher Education. Voronezh Forestry Inst. Voronezh, 1955. (Dissertation for the Degree of Candidate in Agricultural Sciences).

SO: Knizhnaya Letopis', No 9, 1956

ANTONESCU, V.; CALINICENCO, N.; NECHITA, O.; ONU, C.; RUSU, Gh. Ilie; TOMOZEI, Cl.; TIBU, M.; VESCAN, T. T., prof.; VISCRIAN, I.

Radioactivity of the mining region Rodna Veche-Valea Vinului. Studii fiz tehn Iasi 12 no.1:31-33 '61.

1. Membru al Comitetului de redactie si redactor responsabil adjunct, "Studii si cercetari stiintifice, Fizica si stiinte tehnice" (for Vescan)



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00113

SOV/3-58-11-20/38

AUTHOR: Nechitalyuk, A.S.

TITLE: A Student Preparing Himself for a Seminar (Student gotovitsya k seminaru)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 11, pp 55 - 56 (USSR)

ABSTRACT: Last year, at a conference of social science instructors, the Docent S.S. Sergeyev, I.I. Kazakov and others expressed the opinion that it may be expedient to conduct seminars 4 hours in succession. In general the experiment proved successful, although for some subjects, the 2-hour exercise is more suitable. The author proves this by an example pointing out that the students have no time to prepare themselves properly for a 4-hour seminar. Dealing with the importance of a preliminary preparation for seminar exercises, the author points out that the instructors arranged discussions with student groups on various subjects. He finds that the student gets a general idea of the work by abstracting the whole instead of only those parts which are required to enable him to reply to individual questions.

Card 1/2

SOV/110-59-6-6/24

AUTHORS: Kuranov, I.V., Engineer and Nechitalyuk, A.S., Engineer

TITLE: Operating Experience with an Automatic Flow Line for the Manufacture of Rubber Mixtures (Ob opyte ekspluatatsii potochno-avtomaticheskoy linii po izgotovleniyu rezinovykh smesey)

PERIODICAL: Vestnik elektropromyshlennosti, 1959, Nr 6, pp 22-23 (USSR)

ABSTRACT: The first mechanised and automatic plant for the preparation of rubber mixtures was developed in the Uralkabel' works in Sverdlovsk in 1953-54. This article describes operating experience with the plant and modernisation of some parts of it. The automatic rubber-mixing plant is illustrated in Fig 1 and all the main components are listed. The effective length of the line is 110 m, there are 70 mechanisms with 60 electric motors and the installed power is 650 kW. The automatic weighing-machine developed by the Uralkabel' works has operated reliably since 1954 and weighing errors do not exceed 0.4%. Formerly a skip hoist was used for transporting the rubber and some fine materials, were sometimes spilled where they were not wanted so causing

Card 1/3

Operating Experience with an Automatic Flow Line for the Manufacture of Rubber Mixtures

defective output. It has been found better to use transporters both for loading the component and unloading the finished rubber mixtures. The original liquid-measuring equipment was found unsatisfactory and another one has been developed; it was described in the zhurnal NIIKP (Journal of the Scientific Research Institute of the Cable Industry), 1957, Nr 1-2. It is now proposed to introduce all minor components to the rubber-mixing chamber automatically in the liquid condition at a temperature between 60 and 90°C. A special force pump will automatically deliver definite amounts of material with an accuracy of 10 grams. Operating experience has shown that separate lines are required for sifting and drying each white powdery material. Each such line should have two sifting mechanisms and one dryer. There should be two lines for carbon black, one being a spare or able to operate on a different grade of carbon black. Special attention should be paid to the protective system and interlocks

Operating Experience with an Automatic Flow Line for the Manufacture of Rubber Mixtures

to prevent plant operation if any component is defective. The automatic flow-line system is applicable to all rubber shops of the Cable and Rubber industries and its general introduction will result in considerable saving of labour. There is 1 figure and 1 Soviet reference.

NECHITALYUK, M.I.

Surgical treatment of tuberculous empyema. Khirurgiia 36 no.1: 56-60 Ja '60. (MIRA 13:10)

(TUBERCULOSIS)

NECHITAYLO, A.A., inzh.

Contact slides in the Shevchenkovskiy open-pit mine. Nauch.zap. Ukrniiproekta no.5:21-28 '61. (MIRA 15:7)
(Nikopol' region—Landslides)

PRYADKO, N.A., kand.tekhn.nauk; NECHITAYLO, A.A., inzh.

Profitableness of diesel-powered trolleybus transportation in highly productive open pits. Gor. zhur. no.7:54-56 Jl '62. (MIRA 15:7)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut ugol'noy, rudnoy, neftyanoy i gazovoy promyshlennosti, Kiyev.
(Mine haulage)

DEMCHENKO, Viktor Vasil'yevich, inzh.; PECHKOVSKIY, Vsevolod Ivanovich, kand.tekhn. nauk; CHERNEGOV, Aleksandr Aleksandrovich, inzh.; NECHITAYLO, Aleksandr Aver'yanovich, inzh.; KAL'CHIK, Georgiy Semenovich, inzh.; BELYAKOV, Yu.I., kand. tekhn. nauk, retsenzent; SEMENENKO, M.D., inzh., red.izd-va; STARODUB,T.A., tekhn. red.

[Improvement of open-pit manganese mining in the Ukrainian S.S.R.] Sovershenstvovanie otkrytykh razrabotok margantsevykh rud USSR. Kiev, Gostekhizdat USSR, 1963. 119 p. (MIRA 16:8)

(Nikopol' region--Manganese mines and mining)

PRYADKO, N.A., kand.tekhn.nauk; NECHITAYLO, A.A., gornyy inzh.

Trolley bus transportation abroad (from foreign periodicals). Gor. zhur
no.4;72-73 Ap '63. (MIA 16:4)
(Mine haulage)

PECHKOVSKIY, V.I., kand. tekhn. nauk; CHERNEGOV, A.A., gornyy inzh.; NECHITAYLO, A.A., gornyy inzh.

Efficient means of draining pit areas of the Nikopol' manganese deposit. Gor. zhur. no.2:28-30 F'62. (MIRA 17:2)

1. Institut gornogo dela AN UkrSSR (for Pechkovskiy, Chernegov). 2. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut ugol'noy, rudnoy, neftyanoy i gazovoy promyshlennosti UkrSSR (for Nechitaylo).

FIDELEV, A.S., doktor tekhn.nauk; ZHERBIN, M.M., kand.tekhn.nauk; PRYADKO, N.A., kand.tekhn.nauk; NECHITAYLO, A.A., inzh.

Diesel trolley truck haulage. Ugol' Ukr. 7 no.6:38-40 Je '63. (MIRA 16:8)

PRYADKO, N.A., kand. tekhn. nauk; NECHITAYLO, A.A., inzh.; PUFAL', Yu.N.; SUKHOBRUS, V.S.

Use of automotive transportation in the building of strip mines. Ugol' 40 no.8:39-41 Ag '65. (MIRA 18:8)

1. UkrNIIProyekt.

L 00746-67 ENT(1)/ENP(f)/T-2 FDN/WW

ACC NR: AP6005367 SOURCE CODE: UR/0413/66/000/001/0116/0116

AUTHORS: Molodchiy, A. M.; Nechitaylo, A. S.; Ogarkov, A. G.; Vershachevskiy, V. V.; Gunshenko, I. N.

46
B

ORG: none

TITLE: An ignition system for free piston gas generators and free piston compressors. Class 46, No. 177708

SOURCE: Isobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 116

TOPIC TAGS: gas compressor, compressor design, spark ignition, engine ignition system

ABSTRACT: This Author Certificate presents an ignition system for free piston gas generators and free piston compressors, using spark discharges. The system includes a power supply unit, a blocking generator with a transformer and a negative feedback circuit using an RC, an ignition coil, an ignition coil circuit commutator, a discharge capacitor, a contractor, and electric spark plugs (see Fig. 1). The system improves the starting characteristics and reduces the wear of the spark plug electrodes. The system uses an auxiliary triode. The anode of the triode is connected with the lead circuit of the blocking generator. The grid of the triode is connected with the secondary winding of the blocking generator transformer through

UDC: 621.43.044.9

Card 1/2

L 00746-67

ACC NR: AP6005367

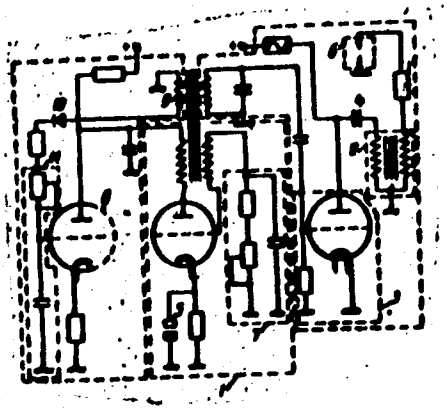


Fig. 1. 1 - blocking generator; 2 - ignition coil; 3 - ignition coil circuit commutator; 4 - discharge capacitor; 5 - contractor; 6 - electric spark plugs; 7 - variable negative feedback circuit; 8 - triode; 9 - secondary winding of the transformer; 10 - rectifier; 11 - filter

a rectifier and an RC filter. Orig. art. has: 1 figure.

SUB CODE: 21/ SUBM DATE: 03Feb64

Card 2/2

ACC NR: AP6010268 (A) SOURCE CODE: UR/0145/66/000/001/0127/0132

AUTHOR: Munshtukov, D.A.; Nechitaylo, K.F. (Engineer); Potapenko, A.Ye. (Engineer)

ORG: None

TITLE: The similarity of nonstationary gas flow in exhaust systems of two-stroke engines

SOURCE: IVUZ. Mashinostroyeniye, No. 1, 1966, 127-132

TOPIC TAGS: exhaust gas dynamics, engine exhaust system, exhaust gas flow, exhaust system, gas flow

ABSTRACT: Experimental investigations of the most important similarity criteria for the modeling of gas-dynamical processes in exhaust systems of two-stroke engines are presented. Following the presentation of the original criteria and similarity parameters, the authors describe the experimental setup, the operating principles of the model test device, and the experimental methodology. The experimental results showing the influence of the various criteria indicate, among others, that there exists a region of partial self similar flow of the gas. The paper was presented by A. I. Borisenko, Professor of the

UDC: 621.43.06

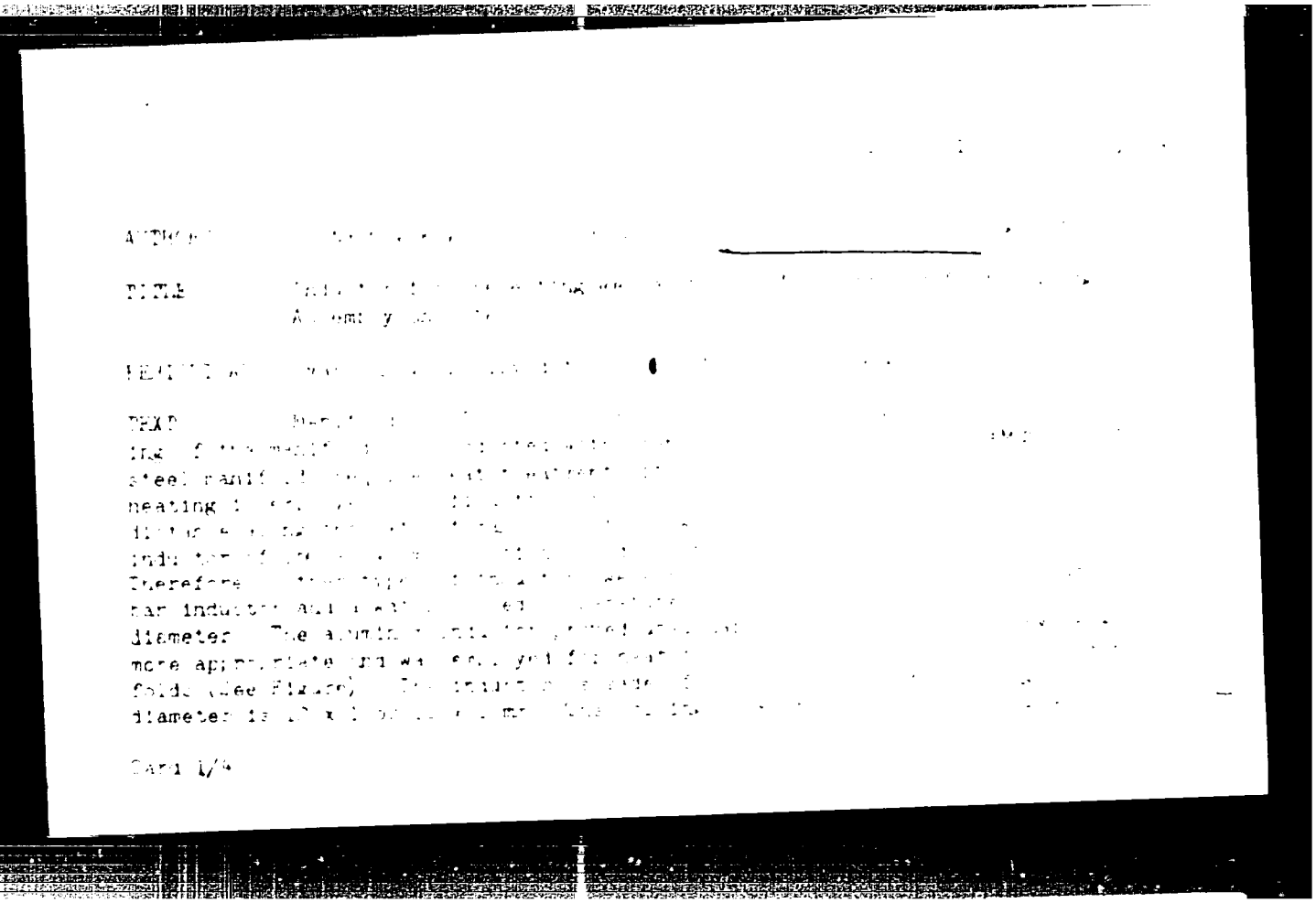
Card 1/2

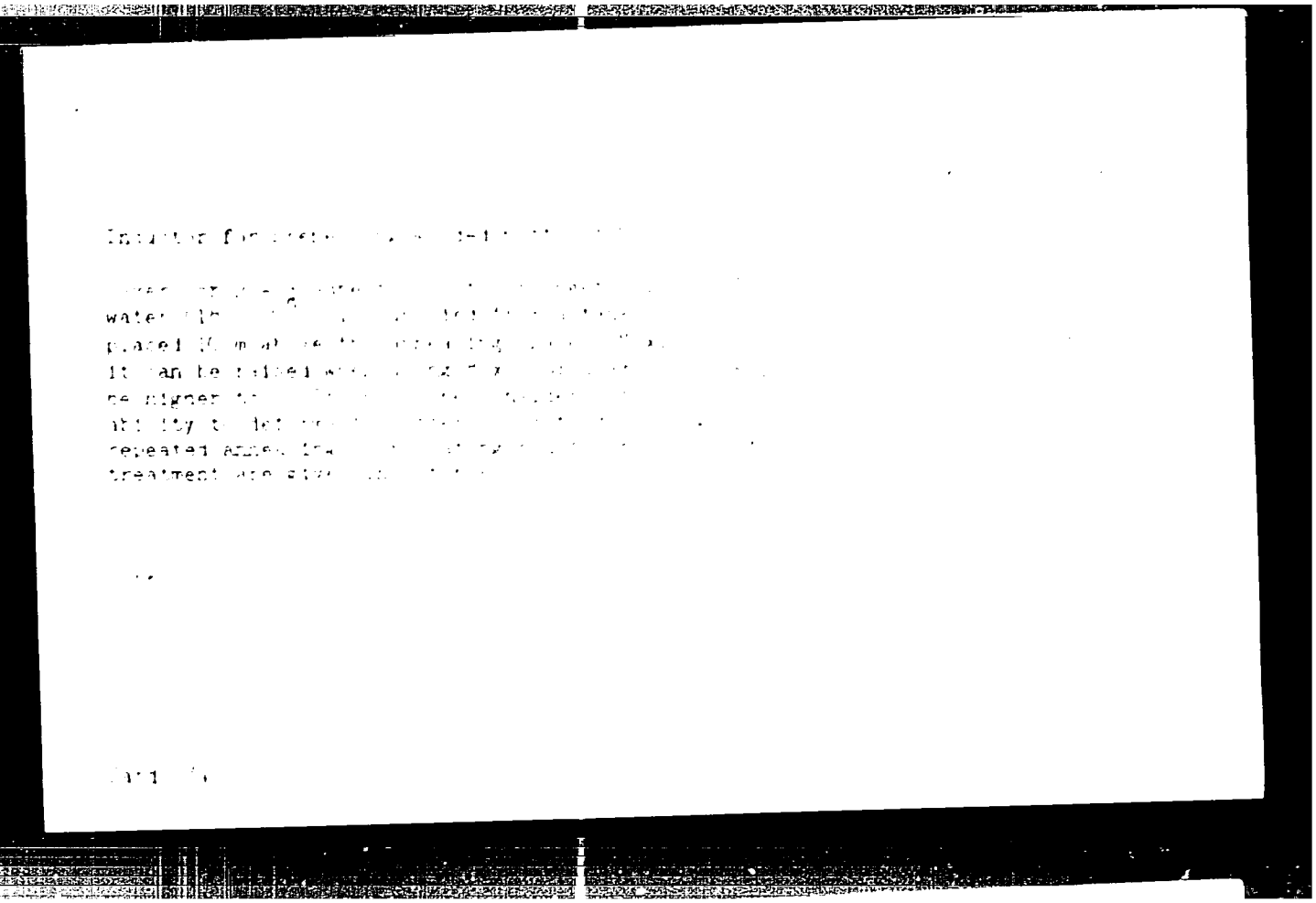
ACC NR: AP6010268

Khar'kov Aviation Institute (Khar'kovskiy aviatsionnyy institut), 14 Jul 64. Orig. art. has: 4 formulas, 4 figures, and 1 table.

SUB CODE: 10 / SUBM DATE: 14Jul64 / ORIG REF: 002

Card 2/2





S/135/61/000/003/012/014
A006/A001

Inductor for Preheating Welded Butts of Boiler Manifolds During Assembly on Site

Diameter of manifolds in mm	Number of coilings in the inductor	Mean annealing current amp	Transformer type	Preheating time of butts for welding in sec.	Time of preheating the the butts to 730°C in sec
273 x 35	10 - 12	750 - 950	ТСД(TSD)-1000	35 - 45	50 - 70
273 x 45	10 - 12	750 - 850	ТСД(TSD)-1000	35 - 45	50 - 70
377 x 50	10 - 12	900 - 1200	ТСД(TSD)-2000	60 - 90	90 -120
426 x 20	8 - 10	800 - 850	ТСД(TSD)-2000	45 - 60	60 - 90
325 x 18	8 - 10	700 - 800	ТСД(TSD)-1000	30 - 40	45 - 60

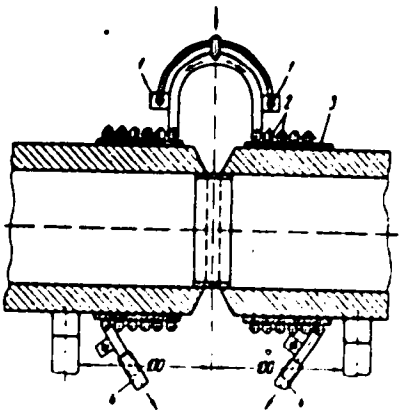
Remark: The feed voltage of the network must be constant

Card 3/4

S/135/61/000/003/012/014
A006/A001

Inductor for Preheating Welded Butts of Boiler Manifolds During Assembly on Site

Figure:
Inductor for preheating manifold butts
1 - contacts; 2 - inductor coilings; 3 - asbestos sheet insulation; 4 - rubber tubes for removing water.
There are 1 figure and 1 table.



ASSOCIATION: "Teploenergmontazh" Trust (Khar'kov)

Card 4/4

POLTASHEVSKIY, G.V., proizvoditel' rabot; NECHITAYLO, K. Ya., inzh.

Thermal treatment of the joints of the boiler headers during installation operations. Energetik 9 no.5:9-10 My '61. (MIRA 14:5)

(Boilers--Welding)

MURGIA-YELORSA, N.A., kand. sel'skokhoz. nauk; MECHITAYLO, I.P.; SEMENOV, V.M.

Preparation of manure-soil composts on narrow strips. Zemledelie 25 no.9:68-70 S '63. (MIRA 16:9)

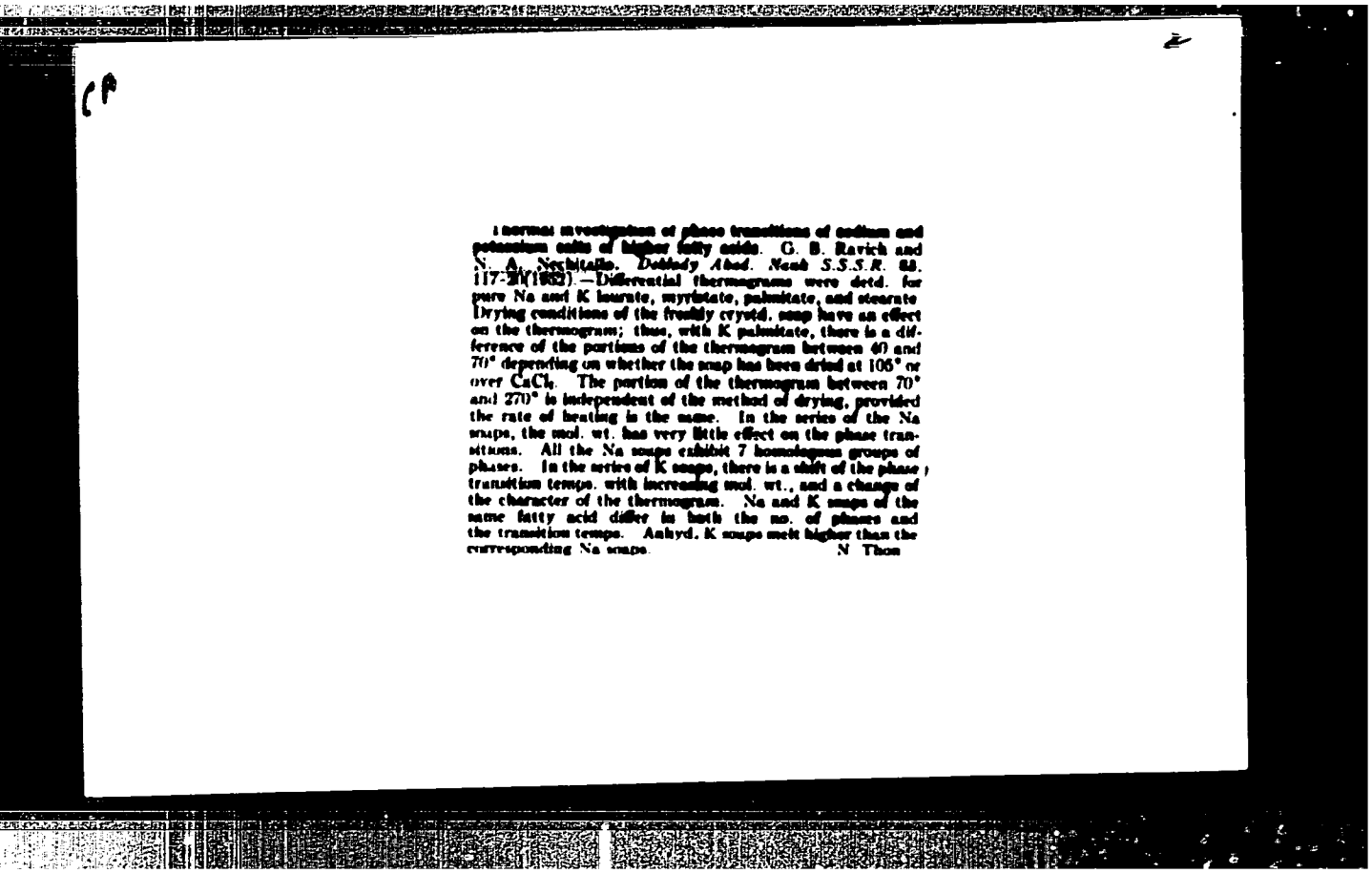
1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva.

(Compost)

MECHITAYLO, N. A.

MECHITAYLO, N. A. -- "Physicochemical Investigation of Sodium and Potassium Salts of the Higher Fatty Acids." Sub 8 Oct 52, Inst of General and Inorganic Chemistry imeni N. S. Kurnakov, Acad Sci USSR. (Dissertation for the Degree of Candidate in Chemical Sciences).

SO: Vechernaya Moskva January-December 1952



Thermal investigation of phase transitions of sodium and potassium salts of higher fatty acids. G. B. Ravich and N. A. Neshitalio. *Doklady Akad. Nauk S.S.S.R.* 88, 117-20(1952).—Differential thermograms were detd. for pure Na and K laurate, myristate, palmitate, and stearate. Drying conditions of the freshly crystd. soaps have an effect on the thermogram; thus, with K palmitate, there is a difference of the portions of the thermogram between 40 and 70° depending on whether the soap has been dried at 105° or over $CaCl_2$. The portion of the thermogram between 70° and 270° is independent of the method of drying, provided the rate of heating is the same. In the series of the Na soaps, the mol. wt. has very little effect on the phase transitions. All the Na soaps exhibit 7 homologous groups of phases. In the series of K soaps, there is a shift of the phase transition temps. with increasing mol. wt., and a change of the character of the thermogram. Na and K soaps of the same fatty acid differ in both the no. of phases and the transition temps. Anhyd. K soaps melt higher than the corresponding Na soaps. N. Thon

NECHITAĬLO, N.A.

62 Pressure extrusion of sodium and potassium salts of higher fatty acids. G. B. Ravich and N. A. Nechitailo. *Doklady Akad. Nauk S.S.S.R.* 87, 69-72(1952); cf. 46, 8491h.—The soaps were forced through a tapered cylindrical channel which was 2 mm. in diam. at the exit. Graphs of cylinder displacement as a function of pressure for Na soaps at 18° and 90° (laurate at 80°) showed a preliminary linear portion followed by a plateau at almost const. pressure. The specific discharge pressures corresponding to this plateau at 18° and 90°, resp., were: Na laurate 420, 110; myristate 510, 210; palmitate 350, 150; stearate 222, 40; oleate 105, —, kg./sq. cm. The extruded soaps were coherent at 18° and crumbly at 90°, except the oleate which at 90° had the consistency of Vaseline. The curves for the K soaps were somewhat different. The graph of cylinder displacement as a function of pressure at 18° showed a hump on the preliminary rising part of the curve (except for palmitate), with a slight max. for laurate. At 70°, all the curves showed a preliminary linear portion rising to a max. followed by a horizontal portion. The specific discharge pressures at 18° and 70°, resp., were: K laurate, 1200, 120; myristate 880, 65; palmitate 650, 80; stearate 560, 42. The extruded K soaps were coherent at 18°.

R. T. Myers

(1)

NECHITAYLO, N.A.

5

The melting in stages of sodium and potassium salts of higher fatty acids. G. B. Ravich and N. A. Nechitailo. *Izvest. Sektora Fiz.-Khim. Analiza, Akad. Nauk S.S.S.R.* 23, 314–26(1953).—"Stage melting" is defined as the combined successive transitions of cryst. and liquid-cryst. phases observed when soap is heated. In this investigation were studied the phys.-chem. properties of Na and K salts of higher fatty acids (soaps) and the effects of the length of C chain, nature of cation, and presence of double bonds on these properties. The salts studied were Na and K laurate, myristate, palmitate, stearate, and Na oleate. The salts were recrystd. from alc., dried at 105°, and subjected to thermographic analysis. All of the Na compds. except laurate had 6 phases, the 7th being isotopic liquid. Na laurate had one addnl. phase. The phase-transition temp. limits of all these compds. were very similar and were not affected by the mol. wt. of the compd. The temp. of transition to an isotopic liquid, m.p., increased as the mol. wt. decreased. The thermogram of Na oleate had the same no. of stops but its shape was different. The thermograms of the K compds. differed from those of the Na salts in the no. of phases and the transition temps. The resemblance of the K salt thermograms to each other is much less pronounced than is that of the Na salt thermograms. The transitions, both of the Na and K salts, were reversible. The degree of precooling (prior to recording of the thermogram) and the rate of heating affected the phase structure, particularly of Na oleate.

M. Hosch

Inst. Gen. & Inorg. Chem. im N.S. Kurnakov

NECHITAYLO, N.I.

Microstructure of sodium and potassium salts of higher fatty acids. N. A. Nechitailo, G. G. Tsurinov, and G. B. Ravich. Inst. Obshch. Neorg. Khim. Anal., Inst. Obshch. Neorg. Khim., Akad. Nauk S.S.S.R. 25, 387-94(1954).—Microstructures of Na stearate and palmitate are identical. Polymorphic forms, found close to temps. of phase transition, are characterized by similar microstructures. The general type of microstructure of Na myristate is very close to that of Na palmitate and stearate. The microstructure of Na laurate is different, having more elongated chains. For all Na soaps of satd. fatty acids the isotropic liquid phase and the liquid-cryst. phase segg. from it are identical. For these phases the growth of so-called conical structure is characteristic. For Na oleate the difference of phases is noted only by change of color of a microsection. At the highest temp. of the liquid-cryst. phase a change of structure is observed. For all K soaps a difference of microstructure is characteristic. All Na and K soaps are characterized by formation of watery crystals of sym. type as a result of high-temp. phase transition. Electron microscopic photographs of the fibrous structure of Na stearate, palmitate, myristate, and laurate show that the width of the fibers decreases in going from Na laurate to Na stearate, that for Na stearate and palmitate the presence of a combination of interwoven fibers and ball-like aggregates is characteristic, that the structure of Na myristate and laurate is characterized less sharply by binding of fibers, and that for Na palmitate 2 types of structure are obtained depending on the concn. of the soln. used for obtaining the fibers.

Eurilla Mayerle

MECHITAYLO, N. A.

USSR/Chemistry - Hydrocarbons

Card 1/1 : Pub. 22 - 14/41

Authors : Topchiev, A. V. Academician; Rosenberg, L. M.; Mechitaylo, N. A.; and Terentyeva, E. M.

Title : Differential-thermal investigation of the complex formation of urea with n-paraffins

Periodical : Dok. AN SSSR 98/2, 223-226, Sep 11, 1954

Abstract : Certain data connected with the clarification of conditions leading to complex formation of solid paraffinic hydrocarbons, are presented. Using octadecane $C_{18}H_{38}$ as an example the authors investigated the effect of the degree of paraffin purification on its ability of complex formation, thermal stability of the complex and the effect of an activator of various chemical nature. It was established that octadecane, having a high degree of purity and pulverization, reacts with urea at room temperature with the aid of an activator. The effect of absolute hydrocarbon purity on its reaction with urea in the presence and absence of activators, is explained. Eleven references: 5-USSR; 4-German; 1-USA and 1-English (1855-1954). Graphs.

Institution : Academy of Sciences, USSR, Petroleum Institute

Submitted : June 18, 1954

TOPCHIYEV, A.V., akademik; ROZENBERG, L.M.; NECHITAYLO, N.A.; TERENT'YEVA, Ye.M.

Differential thermal analysis of the coordination of urea with n-paraffins. Dokl.AN SSSR 98 no.2:223-226 S '54.(MLRA 7:12)

1. Institut nefti Akademii nauk SSSR.
(Compounds, Complex) (Urea) (Paraffins)

NECHITAYLO, N.A.

AID P - 1578

Subject : USSR/Chemistry

Card 1/2 Pub. 152 - 8/21

Authors : Vinogradov, G. V., Nechitaylo, N. A., Sinitsyn, V. V., and Aleksashin, V. I.

Title : Study of the structure of plastic lubricants with an electron microscope

Periodical : Zhur. prikl. khim., 28, no.1, 52-64, 1955

Abstract : Commercial lubricants prepared from synthetic fatty acids studied with an electron microscope did not show a definite structure. It may be assumed that the dispersed phase of these lubricants consists of very small microcrystallites with an imperfect crystalline lattice. In Na-lubricants made from castor oil, and from cotton seed oil, ring-shaped soap particles were detected. In the dispersed phase of Na-Ca-lubricants, the coexistence of two solid phases, Na- and Ca-soaps, was detected. Al- and Li-lubricants were also studied. Seventeen

AID P - 1578

Zhur. prikl. khim., 28, no.1, 52-64, 1955

Card 2/2 Pub. 152 - 8/21

photos, 16 references (5 Russian: 1939-53)

Institution: None

Submitted : F 23, 1954

TOPCHIYEV, A.V.; ROZENBERG, L.M.; NECHITAYLO, N.A.; TERENT'YEVA, Ye.M.

Differential thermal study of complexing in the system:urea - $\mathcal{N}$ -paraffin. Zhur.neorg.khim. 1 no.6:1185-1193 Je '56. (MLRA 9:10)
(Urea) (Paraffins)

ROZENBERG, L.M.; TERENT'YEVA, Ye.M.; NECHITAYLO, N.A.; TOPCHIYEV, A.V., akademik.

Thermal stability of complex compounds formed of n-paraffins and urea.
Dokl. AN SSSR 109 no.6:1144-1147 Ag '56. (MLRA 9:11)

1. Institut nefti Akademii nauk SSSR.
(Paraffins) (Urea)

NECHITAYLO, N.A.

Phase transformations in normal paraffin hydrocarbons with long chains. N. A. Nechitailo and G. B. Ravich. *Uspekhi Khim.* 26, 640–68 (1957).—A review, covering the thermochemistry of phase transitions among alkanes, including the binary systems; 89 references. G. M. K.

NECHITAYLO, N A

20-4-24/51

AUTHORS: Nechitaylo, N. A., Rozenberg, L. M., Terent'yeva, Y. M., and Topchiyev, A. V., Academician

TITLE: Investigation of Systems of the H-Paraffin-Hydrocarbons C_{20} - C_{30} and C_{30} - C_{32} (Issledovaniye sistem H-parafinovykh uglevodorodov C_{20} - C_{30} i C_{30} - C_{32})

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 4, pp. 613-616 (USSR)

ABSTRACT: The hydrocarbons which form the petroleum paraffins are according to their chemical nature heterogeneous. Normal long chain hydrocarbons of $C_{17}A_{36}$ form their main part. In small quantities branched hydrocarbons, cycloparaffins, and alkyl benzenes occur. There are no perfect separation methods for hydrocarbons in the mentioned types. Therefore the industrial exploitation of the petroleum paraffins to the organic synthesis is considerably complicated. A detailed study of the properties of individual H-paraffins as well as of the interaction with each other and with the hydrocarbons of other classes is necessary for the identification and detection of the purity degree of the synthetized hydrocarbons etc. After a short review of references the authors find that the binary systems researched up to now do not contain the entire component range of the petroleum paraffins. The impossibility of a complete elimination of admixtures and occurrence

Card 1/4

Investigation of Systems of the H-Paraffin- Hydrocarbons 20-4-24/51
C_{20} - C_{30} and C_{30} - C_{32}.

of manifold phase variations in the solid state complicates extremely the interpretation of the physical-chemical knowledge obtained by the classic methods. In present paper the investigation results of the state diagrams of the binary systems of the H-paraffins $C_{20}H_{42}$-$C_{30}H_{62}$ and $C_{30}H_{62}$-$C_{32}H_{66}$ are given by means of the differential-thermal and the microstructure method. There are no corresponding data in the references. Eikosan and triakontan were produced according to Kolbe by electrosynthesis, dotriakontan according to Wuerz, then several times purified. The warming- and moderating curves were detected by means of photo-registering pyrometer of Kurnakov. From these curves then the melting temperatures and those of the polymorphous transformation can be found. Table 1 shows the temperature of the phase variations in the system n-$C_{20}H_{42}$ - n-$C_{30}H_{62}$, whereas figure 1 shows a state diagram. The system is eutectic. In all mixtures of 60-100% triakontan an effect occurs quite obviously at the warming- and moderating curves which corresponds to a polymorphous transformation of the concerning hydrocarbon. Its size increases, as it was expected, with the increase of the triakontan content. From the observed microstructure in the polarized light it can be assumed that the phase transition found at 29 - 30° belong to the

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Investigation of Systems of the H-Paraffin- Hydrocarbon C_{20} - C_{30} and C_{30} - C_{32}.

type of irreversible transformations which are observed in the case of H-paraffin-hydrocarbons and their derivates with a moderately long chain (up to 22-C atoms). However, this transition is inspite of its irreversibility one of the slow ones which occur in the case of preparation conservation. No final opinion exists about this. For pure eikosan no polymorphous transformations were found. This corresponds to Hoffman's assumption(reference 15) that in the case of individual H-paraffin-hydrocarbons with only 22 and more C-atoms in the chain "turning- transitions" ("vrashchatel'nyye perechody"P1) occur. The n-α-modifications of the triakontan and dotriakontan form an uninterrupted series of solid solutions. With dropping temperature the α-solid solution passes over into a β -solid solution which is formed by polymorphous carbon modification which are stable below the transition point. There are 2 figures, 2 tables, and 2o references, 3 of which are Slavic.

ASSOCIATION: None Given.

PRESENTED: None Given.

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Card 4/4

20-4-23/52

AUTHORS: Topchiyev, A. V., Member of the AN USSR, Nechitaylo, N. A., Rozenberg, L. M., and Terent'yeva, Ye. M.

TITLE: A Study of the Systems of Normal Paraffinic Hydrocarbons C_{30} - C_{34} and C_{30} - C_{36} (Issledovaniye sistem normal'nykh parafinovykh uglevodorov C_{30} - C_{34} i C_{30} - C_{36}).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 4, pp. 629-631 (USSR)

ABSTRACT: The authors studied (reference 1) the phase diagrams of the systems of n-paraffin hydrocarbons of high molecular contents. The treatise discussed here mentions further systems by means of the differential-thermic method or of the micro-structure method. These diagrams have not been described for binary systems: triacontane-tetratriacontane ($C_{30}H_{62}$-$C_{34}H_{70}$) and triacontane-hexatriacontane ($C_{30}H_{62}$-$C_{36}H_{74}$). The experimental products were reproduced synthetically and severals times recrystallized. As is well known all n-paraffins have reversible polymorphous transformations, whose temperatures as well as the melting temperatures could be determined from the warming curves. The thermograms

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A Study of the Systems of Normal Paraffinic Hydrocarbons C_{30}-C_{34} and C_{30}-C_{36}

were recorded by the photo-registering pyrometer of Kurnakov. The data given in table 1 and 2 are the average of several determinations. The warming curves of the mixtures of the systems investigated were perfectly identical with the cooling curves. The results of the thermic analysis of the binary system triacontane-tetratriacontane are given in table 1, its phase diagram can be seen in figure 1. Both substances form a system with continuous solid solutions (figure 1). The polymorphous modifica'ions of n-paraffins which are eliminated from the melting mass during the cristallization process are denoted with α. They form a continuous solid solution which is also marked with α. After some lowering of temperature the α-solid solution changes into a continuous solid solution consist.ng of β-modifications. They remain stable in temperatures as low as room temperature. The β-solid solution suffers no changes at lower temperatures. The almost straight liquidus line

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proves that when the second component is added to a hydrocarbon with higher melting point this point is only slightly lowered. The temperature of final crystallization is lowered more remarkably. It is very difficult to judge on the state of purity of the n-paraffin preparations by the determination of the melting point and the solidification point by means of the capillary method (thermometrically). It is hardly possible to state the begin and the end of the crystallization. The point of polymorphous transformation suffers a much stronger lowering of the temperature of crystallization when a second component is added. The transitional temperature is much more susceptible to the admixture than is the crystallization temperature. Table 2 shows the results of the thermic analysis of the system triacontane-hexatriacontane. Its phase diagram can be seen in figure 2. This system is analogous to the preceding one. Here, too, the liquidus line is almost straight. Thus the n-paraffins discussed above form systems of continuous solid solutions which in solid state suffer the first type of transformations according to Rozebom.

A Study of the Systems of Normal Paraffinic Hydrocarbons 20-4-23/32.
C_{30}-C_{34} and C_{30}-C_{36}

There are 2 figures, 2 tables, and 8 references, 1 of which is Slavic.

ASSOCIATION: Institute for Petroleum of the AN USSR (Institut nefti Akademii nauk SSSR)

SUBMITTED: April 11, 1957

AVAILABLE: Library of Congress

Card 4/4

NECHITAYLO, N. A., TOPCHIYEV, A. V., ROZENBERG, .L. M. and TERENT'YEVA, Yu. M.

"Separation of Petroleum Paraffins [illegible]

[illegible]

Composition and Properties of the High Molecular Weight Fraction of Petroleum; Collection of Papers, Moscow, Izd-vo AN SSSR, 1958. 370pp. (Inta nefti) 2nd Collection of papers publ. by AU Conference, Jan 56, Moscow.

The temperature ranges for the decomposition of complexes of urea with paraffins [illegible] were determined by means of the differential thermal [illegible] They can be used for the identification of normal paraffins. [illegible] urea is not a selective reagent for normal paraffins. [illegible] paraffins easily form urea complexes. Most of the isoparaffins [illegible] from the Grozzyy paraffin as urea complexes have [illegible] Hydrocarbons which do not react with urea resemble the [illegible] figures, tables, and [illegible] are given. [illegible] German.

AUTHORS. Kitaygorodskiy, A.I., Mnyukh, Yu.V. and Asadchikova, N.A.

TITLE: An Investigation of Solid Solutions of Certain n-paraffins (Issledovaniye tverdykh rastvorov nekotorykh n-parafinov)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 3, pp 298 - 303 (USSR)

ABSTRACT: X-ray and thermographic analysis of the binary systems formed from the paraffins with C_{18}, C_{19} and C_{20} were made. Regularities followed from the theory of close packing of molecules were established and an orthorhombic phase was found in C_{18} - C_{20}. In identical conditions the solubility of molecules with longer chains is less than that of molecules with shorter chains. The theoretical conclusion on the impossibility of a continuous range of solid solutions in mixtures of odd and even paraffins was confirmed. X-ray powder photographs were taken at room temperature and at temperatures from -100° C up to the melting points. It was found that in the systems C_{18} - C_{19} and C_{20} - C_{19} there was no continuous range of solid solutions. The C_{18} - C_{20} system also showed no continuous range of solid solutions in spite of the isomorphism of the crystals $C_{18}H_{38}$ and

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20-3-3-7/36

An Investigation of Solid Solutions of Certain n-paraffins

$C_{20}H_{42}$ which are tri-clinic with very similar dimensions

The region from 8% C_{20} to 81% C_{20} was orthorhombic.

Phase diagrams of the systems $C_{12} - C_{13}$, $C_{13} - C_{14}$ and $C_{14} - C_{15}$ are given The increased solubility of shorter molecules in a given solvent is explained by the lesser disturbance to the structure caused by holes in the structure compared to that caused by extra groups intruding.

There are 5 figures and 9 references, 6 of which are Soviet, 2 English and 1 French.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy, Inst. of nefti (Institute of Element-organic Compounds. Oil Institute)

SUBMITTED: December 4, 1957.

Card 2/2

NECHITAYLO, N.A.; RAVICH, G.B.

One-component and binary systems of normal paraffinic hydrocarbons. Itogi nauki: Khim.nauki 4:180-207 '59. (MIRA 13:4)

(Hydrocarbons)

5 (3)
AUTHORS: Petrov, Al. A., Sergiyenko, S. R., Nechitaylo, N. A., Tsedilina, A. L.

SOV/62-59-6-22/36

TITLE: Synthesis and Properties of the Monomethyl-substituted Alkanes of the Composition C_{12}-C_{16} (Sintez i svoystva monometil-zameshchennykh alkanov sostava C_{12}-C_{16})

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 6, pp 1091 - 1097 (USSR)

ABSTRACT: Since the hydrocarbons of this structure are not yet sufficiently investigated, the synthesis of the monomethylated alkanes with a boiling temperature of more than 200° was investigated. With this monomethylated alkanes one may synthesize all theoretically possible isomers (there are only 29 compounds). They are furthermore of interest because they have thermodynamically stable structures and meet with all technical requirements of motorization. The hydrocarbons were synthesized according to Grignard's reaction (magnesiumbromoalkyls with methylketones). In this reaction the purity of the compounds obtained depends in a high degree on the purity of the initial substances (alkylbromides). This fact was especially considered

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in the present investigation. The methylketones were obtained by decomposition of the corresponding alkyl-acetoacetic acid. As intermediates tertary alcohols were at first obtained which were dehydrated at 280°, redistilled , and hydrated in the autoclave on nickel at a temperature of from 150-170°. The temperature at which the hydrocarbons obtained crystallize was determined by plotting the heating curve by means of the photo--recording Kurnakov pyrometer. The purity degree was determined by means of a special thermographic device. N. I. Lyashkevich, to whom the authors express their gratitude, carried out the measurements in the laboratory for petroleum chemistry of the institute mentioned in the Association. The purity degree of the synthesized hydrocarbons was 97-98%. The thermogram was recorded by a special aluminum block which was designed in the Institut obshchey i neorganicheskoy khimii AN SSSR (Institute of General and Inorganic Chemistry of the AS USSR). By this automatic recording of the heating curves the melting process could be fixed exactly (Fig 1). With almost all compounds obtained two stages in the melting process (-46 and -45.4° melt-

ing and crystallisation temperature) were observed. The properties of the hydrocarbons are given in a table by which it is shown that the density and the refractive index scarcely depend on the position of the outer methyl groups in the main chain, what is well in line with data by Tatevskiy (Ref 9). The crystallisation temperature is, however, strongly influenced by these methyl groups. The change of the crystallisation temperature at the transition of one homolog to the other, and of one isomer into the other is not steady (Figs 2,3 with comparative data from Ref 10). This unsteadiness is caused by the presence of either an even or an odd number of hydrocarbons in the main chain. The transition from an odd to an even number of hydrocarbons exerts a parallel influence on the melting point, the reverse transition, that is an increase in the molecular weight, exerts an antiparallel influence. The laws holding for paraffins, olefins, and greases, which are well known, may thus also be applied to ramificated alkanes. The crystallisation process of the latter takes place by forming such crystals as exhibit the shortest possible carbon chain.

Synthesis and Properties of the Monomethyl-substituted Alkanes of the Composition $C_{12}-C_{16}$ SOV/62-5[illegible]

There are 3 figures, 1 table, and 11 references, 5 of which are Soviet.

ASSOCIATION: Institut nefti Akademii nauk SSSR (Petroleum Institute of the Academy of Sciences, USSR)

SUBMITTED: September 5, 1957

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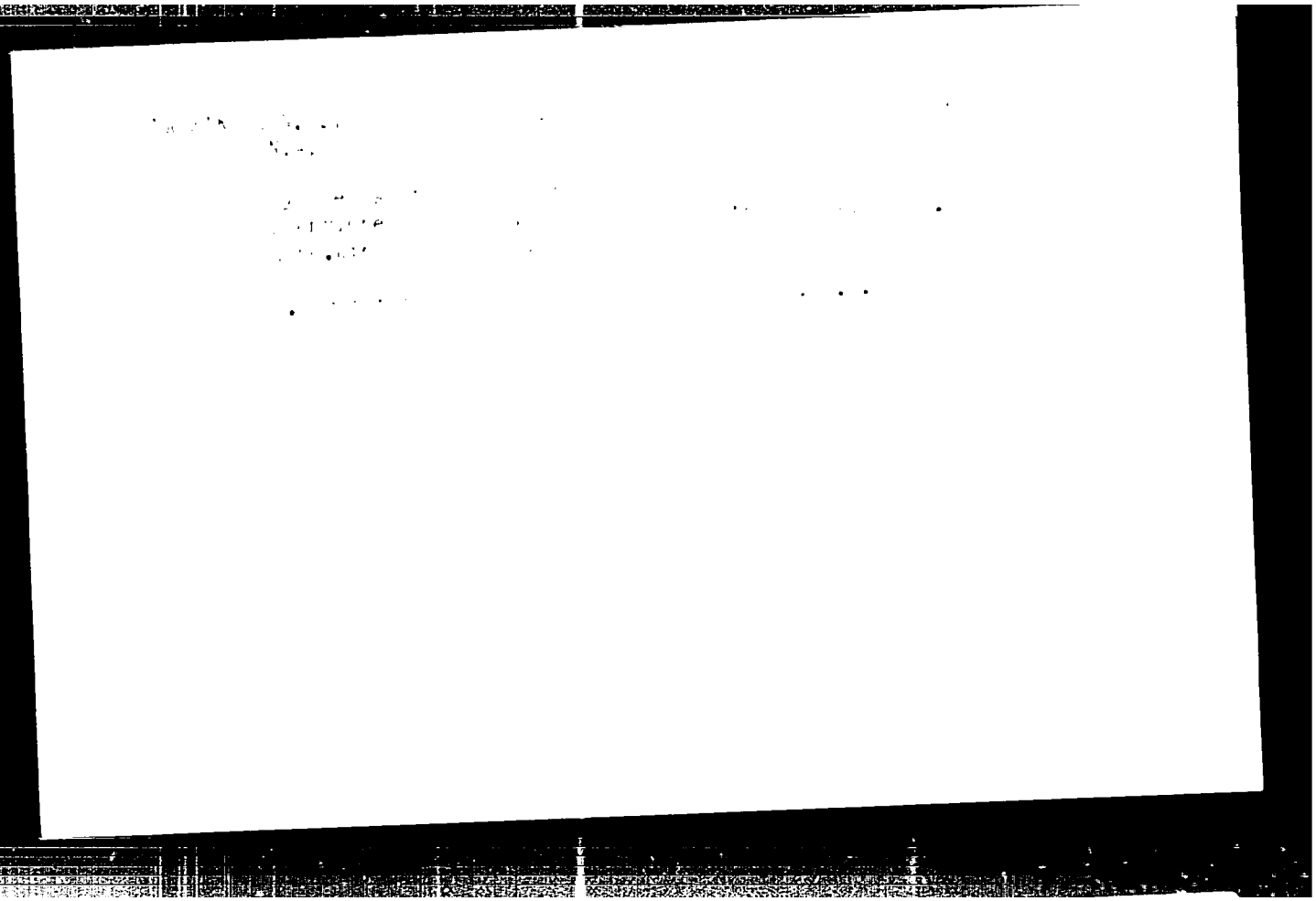

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001136

SOV/62-59-8-13/42

5(3), 5(4)

AUTHORS: Petrov, Al. A., Sergiyenko, S. R., Tsedilina, A. L., Nechitaylo, N. A., Sanin, P. I., Nikitskaya, Ye. A.

TITLE: Synthesis and Properties of the Dimethyl-substituted Alkanes Having the Composition C_{12}-C_{16}

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 8, pp 1421-1424 (USSR)

ABSTRACT: The present paper discusses the synthesis and properties of some of the compounds mentioned in the title. The properties of the synthesized materials are given in table 1. Nearly all substances crystallize at low temperatures; only 2,4-dimethyldecane and 3,5-dimethyldodecane vitrify at much lower temperatures than do their isomers or adjacent homologs. Besides reference 3 investigations aiming at an explanation of these phenomena have also been carried out by Petrov (Ref 4). It was assumed that the characteristic feature of vitrification of the two compounds mentioned is due to their structure. Various investigations were carried out to prove this assumption (determination of viscosity as a function of temperature (Table 2) and determination of molecular weight). From the results it is seen that the influence of the structure on the vitrification effect cannot be limited.

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Synthesis and Properties of the Dimethyl-substituted Alkanes Having the Composition C_{12}-C_{16}

It was only possible to establish a certain dependence on the branching degree of the compounds. There are 2 tables and 5 Soviet references.

ASSOCIATION: Institut nefti Akademii nauk SSSR (Petroleum Institute of the Academy of Sciences, USSR)

SUBMITTED: December 10, 1957

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S/191/60/000/007/002/015
B004/B056

15 8102

AUTHORS: Tolchinskiy, I M., Nechitaylo, N A., Topchiyev, A V

TITLE: Some Thermal Properties of Polypropylene

PERIODICAL: Plasticheskiye massy, 1960, No 7, pp 3 - 8

TEXT: The authors investigated the effect of the amorphous fraction content upon the temperature and thermal effects of melting (and crystallization, respectively) of polypropylene. Polypropylene was synthetized from the propane-propylene-gas fraction by means of catalysts from triethyl aluminum or tri-isobutyl aluminum, and $TiCl_3$ or $TiCl_4$. The heating (Fig 2) and cooling curves (Fig 3) were recorded by a photorecording Kurnakov pyrometer. Measurements were carried out in a Dewar (Fig. 1, total view of the apparatus). In all polypropylene samples, the authors found the same course being taken by the curves with a weak endothermic effect at 135° - 145°C, and an intensive one at 150° - 160°C. These effects could not be explained by polydispersity, because during fractionation by means of boiling heptane (carried out by L. Sidorova), the low-molecular

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Some Thermal Properties of Polypropylene

fraction also showed the two endothermal effects The authors assume a non-uniform structure of the polypropylene, which may be explained only by separating the crystalline part into isotactic and syndiotactic fractions and by their X-ray examination The thermograms of the amorphous fraction showed no marked effects (Fig. 4) because of gradual softening The interrelation between thermal effect and degree of crystallization was investigated by measuring the surfaces of the peaks of the thermal effects Measurements were well reproducible. The measured values deviated by not more than +0 1 cm^2 from the mean values The effect of the cooling rate (0.5 - 7 0°C per minute) upon temperature and amount of the thermal effects is, as may be seen from Table 1, below A comparison between the thermal effects of samples with 7.9% and 20 3% amorphous fraction (Table 2) with a low amorphous fraction content gave a larger area of the peaks, which did not change considerably after repeated heating The amorphous fraction was now extracted by means of cold toluene, and artificial mixtures with various contents of amorphous fraction were produced Whereas the melting and crystallization temperatures of the individual samples remained unchanged, the area of the crystallization peak depended on the amorphous fraction content as shown by Table 3

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Table 3. Change in the area of the crystallization peak with the amorphous fraction content in artificial mixtures

Amorphous fraction content [%]	Area of the peak [cm^2]
0.0	33.7
10.0	24.6
20.0	21.0
30.0	18.4
40.0	16.0

For synthetic polypropylene samples the same dependence was found (Table 4). The X-ray pictures showed that all samples had the same structure (example, Fig. 6). The data from Tables 3,4 are graphically represented in Fig. 5, and the change in the area of the peaks at 0 - 10%, 10 - 20%, 20 - 30%, 30 - 40% amorphous fraction content is given in Table 5. It follows herefrom that at low amorphous fraction contents (of up to about 15%), the degree of crystallization can be determined with sufficient accuracy using the differential thermal method. The authors mention papers by Z. A. Rogovin and T. V. Druzhinina, as well as by V. A. Kargin et al. There are 6 figures, 5 tables, and 19 references: 8 Soviet, 7 US, 1 British, and 3 Italian.

Card 3/3

S/191/60/000/011/013/016
B013/B054

AUTHORS: Nechitaylo, N. A., Tolchinskiy, I. M., Sanin, P. I.

TITLE: Use of Thermal Analysis to Study the Destruction of Polymers

PERIODICAL: Plasticheskiye massy, 1960, No. 11, pp. 54-57

TEXT: The present paper gives heating curves for some polymers in the temperature range of from 20° to 800° - 900°C, and discusses the possibility of using thermal analysis for the study of destruction processes with the aid of the results obtained. Three polyethylene samples and one polypropylene sample of high molecular weight were investigated. The heating curves for the samples were plotted by a Kurnakov automatic recording photopyrometer. On heating the samples in the absence of oxygen in vacuo or an inert gas medium, only those thermal effects were fixed which were connected with the melting of crystallites (Fig. 1). It was found that the transition from the elastic-amorphous to the viscous state took place in the range of 350° - 550°C, and - as expected - was not accompanied by a thermal effect. The curves plotted on heating the samples in the presence of oxygen looked differently (Figs. 2 and 3). Both endothermic and exo-

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Use of Thermal Analysis to Study the Destruction of Polymers

S/191/60/000/011/013/016
B013/B054

thermic effects can be observed on these curves; they correspond to the reactions of oxidation and destruction of polymers. A table gives the temperatures of phase transformations for polyethylene and polypropylene samples The more or less similar thermograms (Figs. 2 and 3) indicate a similar character of high-temperature oxidation and destruction of the polymers examined (Refs. 3 and 5). The thermogram for the amorphous polypropylene fraction has a slightly different form. Except for this fraction, all thermograms show more or less distinctly marked exothermic effects in the region of 200°C. On the basis of the heating curves examined, thermal analysis seems to be a suitable method of studying oxidation and destruction of polymers. It may be assumed that with the aid of thermal analysis it will also be possible to determine the efficiency of stabilizers of the antioxidant type This should facilitate their efficient choice for polymers of various types. V. A. Kargin and T. I. Sogolova are mentioned There are 4 figures, 1 table, and 14 references: 8 Soviet, 3 US, 1 British, and 1 Italian.

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S/076/60/034/012/006/027
B020/B067

AUTHORS: Nechitaylo, N. A., Topchiyev, A. V., Rozenberg, L. M., and Terent'yeva, Ye. M.

TITLE: Study of n-Paraffinic Hydrocarbon Systems

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 12, pp. 2694-2703

TEXT: Using the thermal and microstructural method the authors studied eight phase diagrams of n-paraffinic systems: $C_{30} - C_{32}$, $C_{30} - C_{34}$, $C_{30} - C_{36}$, $C_{26} - C_{30}$, $C_{22} - C_{30}$, $C_{20} - C_{30}$, $C_{22} - C_{26}$, and $C_{18} - C_{20}$. The following n-paraffins were synthetized according to Kolbe and Würtz: octadecane $C_{18}H_{38}$, eicosane $C_{20}H_{42}$, docosane $C_{22}H_{46}$, hexacosane $C_{26}H_{54}$, triacontane $C_{30}H_{62}$, dotriacontane $C_{32}H_{66}$, tetratriacontane $C_{34}H_{70}$, and hexatriacontane $C_{36}H_{74}$. The heating and cooling curves were taken by an automatic, photorecording Kurnakov pyrometer. The temperatures of the

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phase transitions of the hydrocarbons synthetized are given in Table 1. The phase diagram of the systems C_{30} - C_{32}, C_{30} - C_{34} and C_{30} - C_{36} are shown in Figs. 1, 2 and 3. In all systems homogeneous solid solutions were formed. The systems C_{30} - C_{20} (Fig. 4) and C_{22} - C_{30} (Fig. 5) form eutectics (Fig. 5). The temperatures of the phase transitions obtained from the results of thermal analysis are given in Table 2. The system C_{26} - C_{30} contains series of homogeneous solutions (Fig. 6 and Table 3). The phase diagram of the system C_{18} - C_{20} is given in Fig. 7 and the results of the thermal analysis of the system are given in Table 4. C_{26}, which was synthetized by the authors, is a two-phase system whose monoclinic component predominates. The presence of a component with triclinic structure C_{22} - C_{26} essentially influenced the results of thermal analysis and thus rendered certain parts of the phase diagram indistinct. The experimental material on binary systems of n-paraffins obtained as well as published data prove that the structure of the component is the decisive factor in the formation of systems. The ratio of the chain lengths in the

systems concerned is given in Table 6. According to the theoretical concepts which were presented in the papers by A. I. Kitaygorodskiy the phases with different structures cannot form a series of homogeneous solid solutions. Actually, the α-phases of both components are isomorphous in the system C_{22} - C_{30}, the hexagonal α-modification of triacontane, however, is stable only at temperatures above 58-59°C. Below these temperatures the monoclinic β-form of triacontane which forms a eutectic mixture with the hexagonal α-form of docosane is stable. V.M.Kravchenko and N. N. Yefremov are mentioned. There are 8 figures, 6 tables, and 30 references: 11 Soviet, 10 US, 4 British, 1 French, 1 Dutch, 2 German, and 1 Austrian.

ASSOCIATION: Akademiya nauk SSSR, Institut neftekhimicheskogo sinteza, Moskva (Academy of Sciences USSR, Institute of Petrochemical Synthesis, Moscow)

SUBMITTED: March 10, 1959

NECHITAYLO, N.A.; SANIN, P.I.; TOLCHINSKIY, I.M.; Prinimali uchastiye: DZYUBINA, M.A.; SHIROKOVA, L.A.

Melting heat of polymers. Plast.massy no.8:3-5 '61. (MIRA 14:7)
(Polymers) (Heat of fusion)

S/191/62/000/007/001/011
B124/B144

AUTHORS: Nechitaylo, N. A., Polak, L. S., Sanin, P. I.

TITLE: Effect of gamma radiation on polypropylene in the presence of ionol as stabilizer

PERIODICAL: Plasticheskiye massy, no. 7, 1962, 3-11

TEXT: Gamma-irradiated isotactic polypropylene with and without stabilizer was studied by infrared spectroscopy, and by thermomechanical and thermal differential analysis. Ionol (2,6-di-tert-butyl-4-methyl phenol) in concentrations between 0.5 and 5% by weight was used as stabilizer. Polypropylene was irradiated with Co^{60} both at 10^{-3} mm Hg and at atmospheric pressure, using a dose of $1.1 \cdot 10^{16}$ ev/cm^3·sec, in the apparatus of the Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov). The infrared spectra were taken with the ИКС-14 (IKS-14) spectrograph, and the thermomechanical curves obtained with a loading of 100 g/4 mm^2 at a heating rate of 80°C/hr. The intrinsic viscosity was determined in Decalin at 120°C; the thermal

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Effect of gamma radiation on ...

differential analysis was carried out by N. S. Kurnakov's pyrometer with the use of a combined Pt-Au-Pd thermocouple and a weighed portion of 0.1-0.15 g. The infrared spectra were taken on tablets pressed at room temperature and on films obtained from the melt. The absence of the intensive band at 1720 cm^{-1} in the spectrum of the ionol-containing polypropylene films irradiated proves that ionol inhibits the formation of oxygen-containing groups and thus stabilizes the polymer irradiated. Specimens irradiated with 50 Mr without ionol were insoluble in Decalin at 120°C, whereas those with ionol were readily soluble even after doses of 100 and 200 Mr. This proves that ionol inhibits the cross-linking of molecules, which is confirmed by the thermomechanical curves. The intrinsic viscosity drops with increasing irradiation dose. Without stabilizer, the specimen heated in argon showed a decrease of the melting point, while heating in air was attended also by strongly exothermic reactions reaching maxima at 190 and 217°C. These reactions disappeared on addition of ionol, the melting point then rising by about 10°C. The formation of various oxygen-containing groups or peroxides on heating in air is inhibited by the antioxidant, ionol. With increasing irradiation

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Effect of gamma radiation on ...

dose, polypropylene without stabilizer shows a decrease of melting point and of the area of endothermic peaks corresponding to the melting heats of polypropylene. Finally, an intensive exothermic process takes place above the melting point; the reaction heat of this process increases with increasing irradiation dose. With addition of ionol, the melting heat of polypropylene increases; no exothermic reaction above the melting point takes place owing to inhibition of the oxidation processes; the melting point drops but still lies some degrees above that of nonstabilized polypropylene. The optimum ionol concentration is about 1.5%. On irradiation of polypropylene, the melting point drops as the amorphous proportion increases. G. L. Slonimskiy is thanked for the thermomechanical analyses, and N. M. Rytov and M. A. Dzyubin for assistance. There are 7 figures and 4 tables. The most important English-language references are: W. P. Hawkins, et al. J. Appl. Polymer Sci. 1, 37 (1959); W. H. Hawkins et al. J. Polymer Sci. 28, No. 177, 439 (1958); W. H. Hawkins et al. J. Appl. Polymer Sci., 1, No. 1, 43 (1959).

Card 3/3

MECHITAYLO, N.A., kand.khim.nauk

The use of thermography. Vest. AN SSSR 32 no.12:101-102 D '62.
(MIRA 15:12)

(Thermometry—Congresses)

NECHITAYLO, N A.

7

MUSAYEV, I.A., ROSENBERG, L.M., NIPONTOVA, S.S., GALPERN, O.D., NECHITAYLO, N.A., TSVENTSEVA, YE.N., KUSAKOV, M.M., SANIN, P.I.

Investigating chemical composition of middle fractions of a sulphurous crude oil in the USSR

Report to be submitted for the Sixth World Petroleum Congress, Frankfurt, 16-26 June 63

ACCESSION NR: AP4028542 S/0191/64/000/004/0003/0006

AUTHORS: Nechitaylo, N.A.; Sanin, P.I.; Bevza, T.I.; Pokatilo, N.A.

TITLE: Stability of poly-3-methylbutene-1

SOURCE: Plasticheskiye massy*, no. 4, 1964, 3-6

TOPIC TAGS: polymethylbutene, stability, differential thermal analysis, methylbutene polymerization, thermogram, exothermic effect, endothermic effect, amorphous, crystalline, isotactic polymer, stabilizer, polymer oxidation

ABSTRACT: The stability to atmospheric oxidation of poly-3-methylbutene-1 was studied by differential thermal analysis. The polymer was produced by polymerization of 3-methylbutene-1 on the $Al(C_2H_5)_3$-$TiCl_4$ system (1.5:1). The thermogram of the polymer sample in air shows a series of exothermic effects above 120C and an endothermic peak at 260C. In the thermogram in argon the exothermic effects are absent but there is a series of endothermic effects, associated with changes in the structure of the polymer macromolecules.

Card 1/2

ACCESSION NR: AP4028542

Comparison of the amorphous, slightly crystalline and crystalline or isotactic fractions (structures confirmed by x-rays) of the polymer shows the highly crystalline material is oxidized most on heating. The effect of the addition of various amounts of ionol (2,6-di-tert. butyl-4-methylphenol) was studied, and it was found that the intensity of the exothermic effects was reduced with increasing amounts of stabilizer, up to 2% ionol when there is almost no oxidation of the polymer. Orig. art. has: 5 figures.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 28Apr64 ENCL: 00

SUB CODE: CH NR REF SOV: 002 OTHER: 003

Card 2/2

L 11298-65 EPA(a)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4/Pt-10

DJ/RM

ACCESSION NR: AP4044556 S/0204/64/004/004/0650/0657

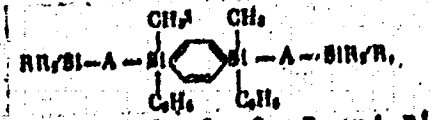
AUTHOR: Nametkin, N. S.; Chernyshova, T. I.; Pritula, N. A.; Oppengeym, V. D.; Nechitaylo, N. A.

TITLE: Synthesis of organosilicon compounds with phenylenecarbon and phenylenesiloxane groups and their thermoanalysis

SOURCE: Neftekhimiya, v. 4, no. 4, 1964, 650-657

TOPIC TAGS: silphenylene, p bis(methyphenylsilyl)benzene, silphenylene structure, silphenylene thermal transformation, silphenylene synthesis

ABSTRACT: A number of silphenylenes of the type



where A is O or $(CH_2)_n$ with n = 1, 2, 3, R and R' are CH_3, or A is $(CH_2)_n$ and R' is C_6H_5, have been prepared from p-bis(methylphenylsilyl)benzenes in which silicon atoms are linked with bromine, vinyl

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L 11298-65
ACCESSION NR: AP4044556

radicals or hydrogen atoms. The study was conducted because silphenylenes were expected to exhibit high thermal stability, and because of their possible use as lubricants, heat-transfer agents and fluids for vacuum diffusion pumps. The structure of the compounds was confirmed by IR spectral analysis. The thermal conversions of the silphenylenes were studied in air with the Kurkakov pyrometer equipped with automatic recording. The results of derivative thermogravimetric analysis are given in Table 1 of the Enclosure. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva AN SSSR (Institute of Petrochemical Synthesis, AN SSSR)

SUBMITTED: 09Dec63 ATD PRESS: 3104 ENCL: 01

SUB CODE: GC, OC NO REF SOV: 004 OTHER: 007

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L 11298-65
ACCESSION NR: AP4044556

ENCLOSURE: 01

Table 1. Conversions of silphenylenes from data of derivative thermogravimetric analysis

Compound	Temperature, °C			
	Melting	First Exothermic effect	Second Exothermic effect	Endothermic effect
$(CH_3)_2Si-(CH_2)_3-Si(CH_3)(C_6H_5)C_6H_4$	—	260—360	445—695	—
$(CH_3)_2Si-(CH_2)_3-Si(CH_3)(C_6H_5)C_6H_4$	62	218—337	462—630	—
$(CH_3)_2Si-(CH_2)_3-Si(CH_3)(C_6H_5)C_6H_4$	60	205—335	462—650	—
$(CH_3)_2C_6H_4Si-(CH_2)_3-Si(CH_3)(C_6H_5)C_6H_4$	—	240—375	540—600	365—415
$(CH_3)_2Si-O-Si(CH_3)(C_6H_5)C_6H_4$	—	—	—	—

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L 60041-65 EWT(m)/EPF(c)/EPF(n)-2/EWP(j) Pc-4/Pr-4/Pu-4 GG/JAJ/RM

ACCESSION NR: AP5018034 UR/0191/65/000/007/0007/0013
678.742.3:621.039.83:678.021.122

AUTHOR: Nechitaylo, N. A.; Sanin, P. I.; Gol'denberg, A. L.; Polak, L. S.

TITLE: Effect of stabilizers on irradiated polypropylene

SOURCE: Plasticheskiye massy, no. 7, 1965, 7-13

TOPIC TAGS: polypropylene, ionizing radiation, oxidation inhibitor, phenyl-naphthylamine, ionol, polymer stabilizer, gel formation

ABSTRACT: Polypropylene (MW~224,000) was irradiated with a Co^{60} source in ampoules at about 10^{-3} mm Hg. The stabilizers chosen were phenyl-β-naphthylamine (Neozone D), 2-mercaptobenzimidazole, and barium di-n-octadecyldithiophosphate; for comparison, experiments were made with ionol. Thermograms were recorded automatically with a Kurnakov pyrometer, and the temperatures of the thermal effects observed were studied in relation to the irradiation dose and the content of stabilizers. The endothermic effects on the heating curves correspond to the melting of the polymer samples, and the exothermic ones to the reactions of oxidation of polypropylene. The degree of oxidation was determined by infrared spectroscopy from the content of carbonyl compounds. On the basis

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ACCESSION NR: AP5018034

of the quantity of carbonyl groups formed in the various experiments, the most effective oxidation inhibitors are phenyl-β-naphthylamine and ionol. The intrinsic viscosity of the samples was studied as a function of the irradiation dose. The protection coefficients, energy transfer factors, and intrinsic viscosities of polypropylene irradiated in air were determined. The number of breaks in the primary molecular chain caused by the ionizing radiation was correlated with the reciprocal molecular weight. The addition of 2% ionol is sufficient to prevent cross-linking in the polymer at a dose of 70 mr. At 160 and 250 mr, 5 and 8% ionol, respectively, is needed to prevent gel formation. "The authors thank M. A. Dzyubin for considerable assistance in the work."
Orig. art. has: 8 figures, 6 tables, and 2 formulas.

ASSOCIATION: None

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

NO REF SOV: 006 OTHER: 010

Card 2/2

L 56027-65 EWT(m)/EPF(c)/T Pr-4 DJ
ACCESSION NR: AP5016842 UR/0204/65/005/003/0399/0405
547.26'118'122.1:66.094.382

AUTHOR: Sher, V.V.; Melent'yeva, N. V.; Nechitaylo, N. A.; Sanin, P. I.

TITLE: The effect of thermal conversion of metal dialkyl dithiophosphates on their effectiveness as hydrocarbon antioxidants

SOURCE: Neftekhimiya, v. 5, no. 3, 1965, 399-405

TOPIC TAGS: lubricant additive, antioxidant, metal dialkyl thiophosphate, oxidation inhibitor

ABSTRACT: Metal dialkyl dithiophosphates, particularly those of zinc, are antioxidants of hydrocarbons and find application as lubricant additives. Unlike other antioxidants, such as various phenols, metal dialkyl dithiophosphates not only inhibit the initiation of oxidation (extend the induction period), but also continue to inhibit the propagation steps of oxidation. Preliminary experiments had shown that the specific action of metal dialkyl dithiophosphates depends on the formation of secondary products. In the present work, the antioxidative effectiveness of several metal dialkyl dithiophosphates

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was examined as a function of their prior heat treatment. It was found that zinc diisopropyl dithiophosphate acted most effectively as an antioxidant for a mixture of alkanes and cyclanes when the antioxidant had been kept for 5 hours at 180C under nitrogen. Similarly, zinc diisobutyl dithiophosphate was most effective as an antioxidant when prior heat treatment had been conducted at 225C; higher or lower temperatures decreased its effectiveness. Other compounds of this type exhibit similar behavior. Heating of the above compounds in air proved as effective as heating under nitrogen. It was concluded that metal dialkyl dithiophosphates are changed by heat treatment into substances which combine with oxidation products of hydrocarbons to form effective antioxidants. Orig. art. has: 4 figures. [VS]

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A. B. Topchiyeva AN SSSR (Institute of Petrochemical Synthesis, AN SSSR)

SUBMITTED: 030ct64 ENCL: 00 SUB CODE: FP, IE

NO REF SOV: 006 OTHER: 004 ATD PRESS: 4032

Card 2/2

L 13819-66 EWT(m)/EPF(n)-2/EWP(1)/EWA(h)/EWA(1) GG/RM

ACC NR: AP6002480 (A) SOURCE CODE: UR/0191/66/000/001/0037/0041

AUTHORS: Nechitaylo, N. A.; Pospishil, Ya.; Sanin, P. I.; Polak, L. S.

ORG: none

TITLE: Dihydroxyphenols-stabilizers for irradiated polypropylene 15

SOURCE: Plasticheskiye massy, no. 1, 1966, 37-41 19,44,55

TOPIC TAGS: polymer, polypropylene, radiation damage, radiation effect, polypropylene

ABSTRACT: The stabilizing action of hydroquinone, 2-methylhydroquinone, 2-tert-butylhydroquinone, 2-tert octylhydroquinone, 2,5-di-tert-butylhydroquinone, pyrocatechine, 4-methyl pyrocatechine, 4-tert-butylpyrocatechine, 4-tert-octylpyrocatechine, and 3,5-di-tert-butylpyrocatechine on the stability of irradiated polypropylene was studied. The initial polypropylene had a molecular weight of 390 000 and was irradiated with Co^{60} γ-radiation of 1.5—1.0 M roentgen intensity. Thermodifferential analysis curves, IR spectra, and viscosity for irradiated polypropylene specimens in the presence and absence of air (and containing varying amounts of different dihydroxyphenols) are presented in tables and graphs (see Fig. 1). The number of chain ruptures produced by the radiation was calculated after P. M. Black and B. J. Lyons (Proc. Roy. Soc., 253, 322, 1959). It was found

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UDC: 678.742.3:678.048.5

L 13819-66

ACC NR: AP6002480

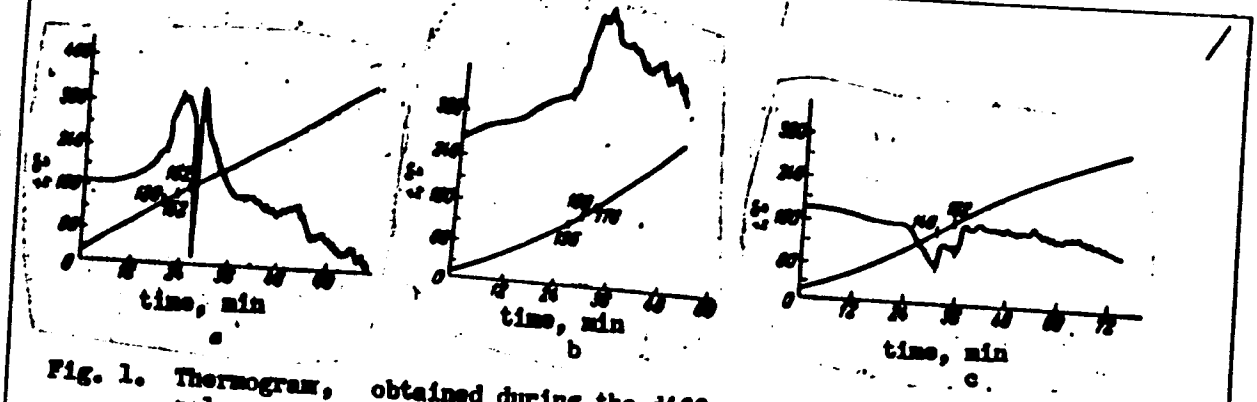


Fig. 1. Thermograms, obtained during the differential thermal analysis of polypropylene (irradiated in presence of air; radiation dosage 40 Mr). a - initial polypropylene; b - after irradiation containing 2-tert-butylhydroquinone; c - after irradiation containing 4-tert-butyl-pyrocatechine.

that 4-tert-butylpyrocatechine and 3,5-di-tert-butylpyrocatechine were the most effective stabilizing agents. A conclusion is reached that dihydroxyphenols stabilize irradiated polypropylene by inhibiting its reaction with atmospheric oxygen. The authors thank M. A. Dzyubin for his aid in the present work. Orig. art. has: 6 tables, 3 graphs, and 1 equation.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 003

Card 2/2

L 32663-66 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AP6015053 (A) SOURCE CODE: UR/0190/66/008/005/0888/0892

AUTHOR: Nametkin, N. S.; Nechitaylo, N. A.; Durgar'yan, S. G.; Khotimskiy, V. S.

ORG: Institute of Petrochemical Synthesis, AN SSSR (Institut neftekhimicheskogo sinteza AN SSSR)

TITLE: Thermal stability of polymer from vinyl derivatives of silicon

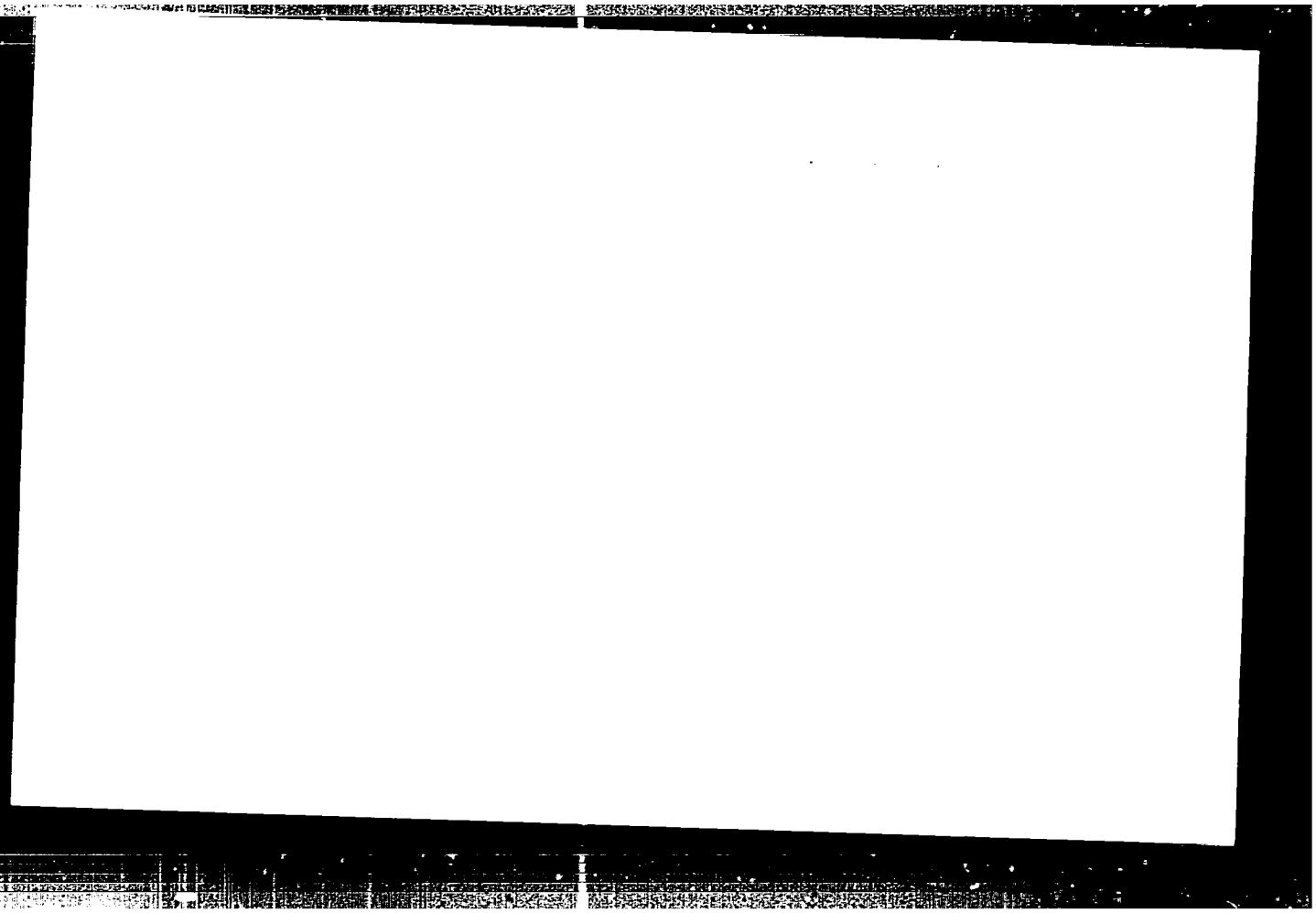
SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 5, 1966, 888-892

TOPIC TAGS: polymer, silicon, silane, macromolecule, thermal oxidation, oxidative degradation, THERMAL DEGRADATION, THERMAL STABILITY, ORGANOSILICON COMPOUND

ABSTRACT: A number of macromolecular organosilicon polymers has been synthesized from silicon vinyl derivatives. The stability of synthesized polyvinyl silanes was analyzed by the differential thermal method. The stabilizer effect on the process of the thermooxidative degradation of the polyvinyl trimethylsilane was shown. Orig. art. has: 4 figures and 1 table. [NT]

SUB CODE: 11, 07/ SUBM DATE: 20May65/ ORIG REF: 004/ OTH REF: 001

Card 1/1 BLG UDC: 678.01:54+678.84



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001136

NECHITAYLO, N.V.

Control of venereal diseases in Burma. Vest. derm. i ven. 38 no.10:79-81 O '64. (MIRA 18:7)

1. Rukovoditel' gruppy sovetskikh spetsialistov v Sao San Tun gospitale (Birma).

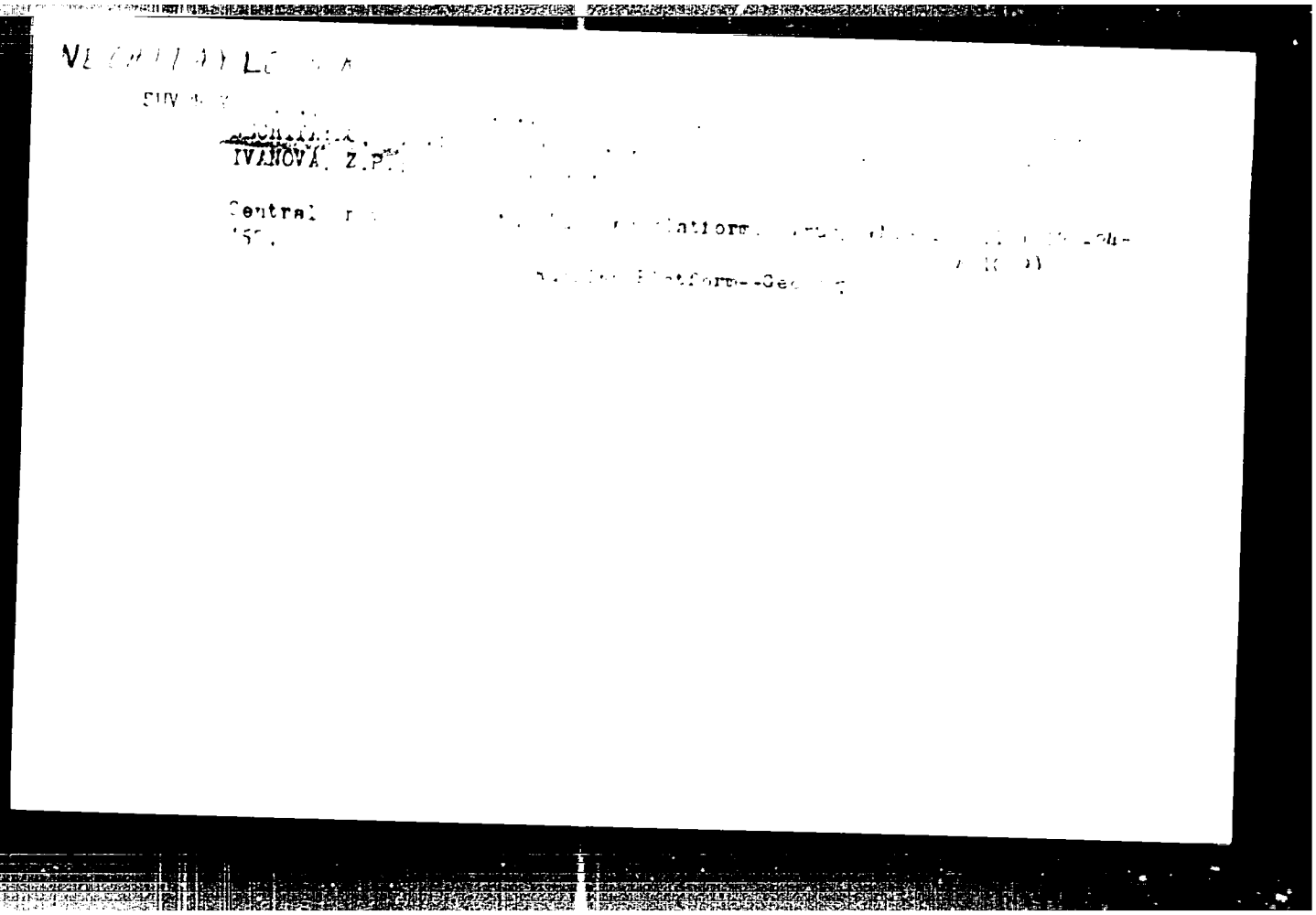
NECHITAYLO, P. inzhener

Automatic car for loading coal. Mast. ugl. 4 no.4:19 Ap '55.
(Coal handling machinery) (MLRA 8:6)

NECHITAYLO, S.K.

Principal characteristics of the geological structure of Gorkiy Province in the trans-Volga region. Trudy VNIGNI no.8:234-250 '57. (MIRA 12:2)

(Gorkiy Province--Geology)



NECHITAYLO, S.K.; SUVOROV, P.G.; KHOKHLOV, P.S.

Basic geological characteristics, and oil and gas potentials of the central parts of the Russian Platform. Trudy VNIGNI no.10:142-157 '58. (MIRA 14:5)

(Russian Platform -Petroleum geology)
(Russian Platform -Gas, Natural--Geology)

NECHITAYLO, S.K.; VESELOVSKAYA, M.M.; SKVORTSOVA, Ye.N.; LYUTKEVICH, Ye.M., nauchnyy red.; KULIKOV, M.V., vedushchiy red.; GENNAD'YEVA, I.M., tekhn.red.

[Materials on the geology of the Gorodets-Kovernino tectonic zone] Materialy po geologii Gorodetsko-Koverninskoi tektonicheskoi zony. Pod red. E.M.Liutkevicha. Leningrad, Gos. nauchno-tekhn.izd-vo neftianoi i gorno-toplivnoi lit-ry, Leningradskoe otd-nie, 1959. 126 p. (MIRA 12:9)
(Gorkiy Province--Geology, Structural)

NECHITAYLO, S.K.

Geology of uplands in the northern part of the Alatyr'-Gorkyi zone. Trudy VNIGNI no.13:216-236 '59. (MIRA 13:1)
(Volga Valley--Geology)

3(5)

AUTHOR: Nechitaylo, S. K. SOV/20-128-3-45/58

TITLE: Recent Data on the Existence of a Basement Prominence in the North-western Part of the Gor'kiy Oblast'

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 3, pp 596-599 (USSR)

ABSTRACT: Near the village of Novopokrovskoye (80 km north of the town of Gor'kiy), a borehole about 450 m deep was drilled in 1949. At a depth of more than 215 m, a breccia mass was found quite surprisingly which mainly consisted of gneiss splinters and -fragments, and was about 180 m thick. Below that, the borehole passed through solid loam, in some places passing over into argillites, for about 45 m. There are no organic remains in these loams so that their age is uncertain. In 1951, the author noticed a similarity of the gneiss splinters and -fragments with the crystalline basement rocks discovered by borings near the town of Balakhna (40 km south of Novopokrovskoye). The angular shape of the splinters suggests a short transport distance. M. M. Veselovskaya (1952) arrived at similar conclusions with respect to a breccia from a borehole 10 km south-west of Novopokrovskoye, and assumed a basement prominence

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Recent Data on the Existence of a Basement Prominence in the North-western Part of the Gor'kiy Oblast' SOV/20-128-3-45/58

of the Russian Platform. Ye. M. Lyutkevich and D. L. Frukht (Ref 3)assumed an old gneiss range in the Gor'kiy-Oblast. Geophysical investigations by V. M. Rymanov, T. I. Titova and P. S. Cherepanov established an intense magnetic maximum with an amplitude of 900 γ in the region of the village of Vorotilovo. At a depth of 432 m already, the borehole got into a tectonically very much disturbed, archaic gneiss mass. This gneiss layer was not pushed through by another boring of 350 m. This exceptionally high position of the central part of the Russian Platform was designated by the author as basement prominence (Fig 1). The gneisses are so much changed that the type of rock cannot be determined even under the microscope. Besides the secondary changes, an intense dynamometamorphism is characteristic of these gneisses. Intermediate layers of a tectonic breccia also occur. Both aspect and petrographic composition of these crystalline rocks suggest that the borehole pushed through a zone of tectonic disturbances near the village of Tonkovo. It seems that the gneisses are also changed hydrothermally. With respect to their genesis, these rocks are - according to data by M. M. Veselovskaya - para-rocks which were microclinized

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during the latter stages of formation. There is no trace of volcanic rocks. The appearance of garnet at various depths points to a sedimentary origin. No Paleozoic deposits were found in the region of this prominence of Vorotilovo. But 50 km south of Tonkovo, in Balakhna, a sediment mass, 1800 m thick, of the lower Cambrian, Devonian, Carboniferous and Permian periods (Fig 2) lies on the platform basement. The Vorotilovo prominence did no longer exist in the relief of this part of the platform after it had been leveled by sediments of the Bathonian stage. Devonian on the slopes of the prominence may be interesting for petroleum prospecting. There are 2 figures and 5 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut (All-Union Scientific Research Institute of Geological Petroleum Prospecting)

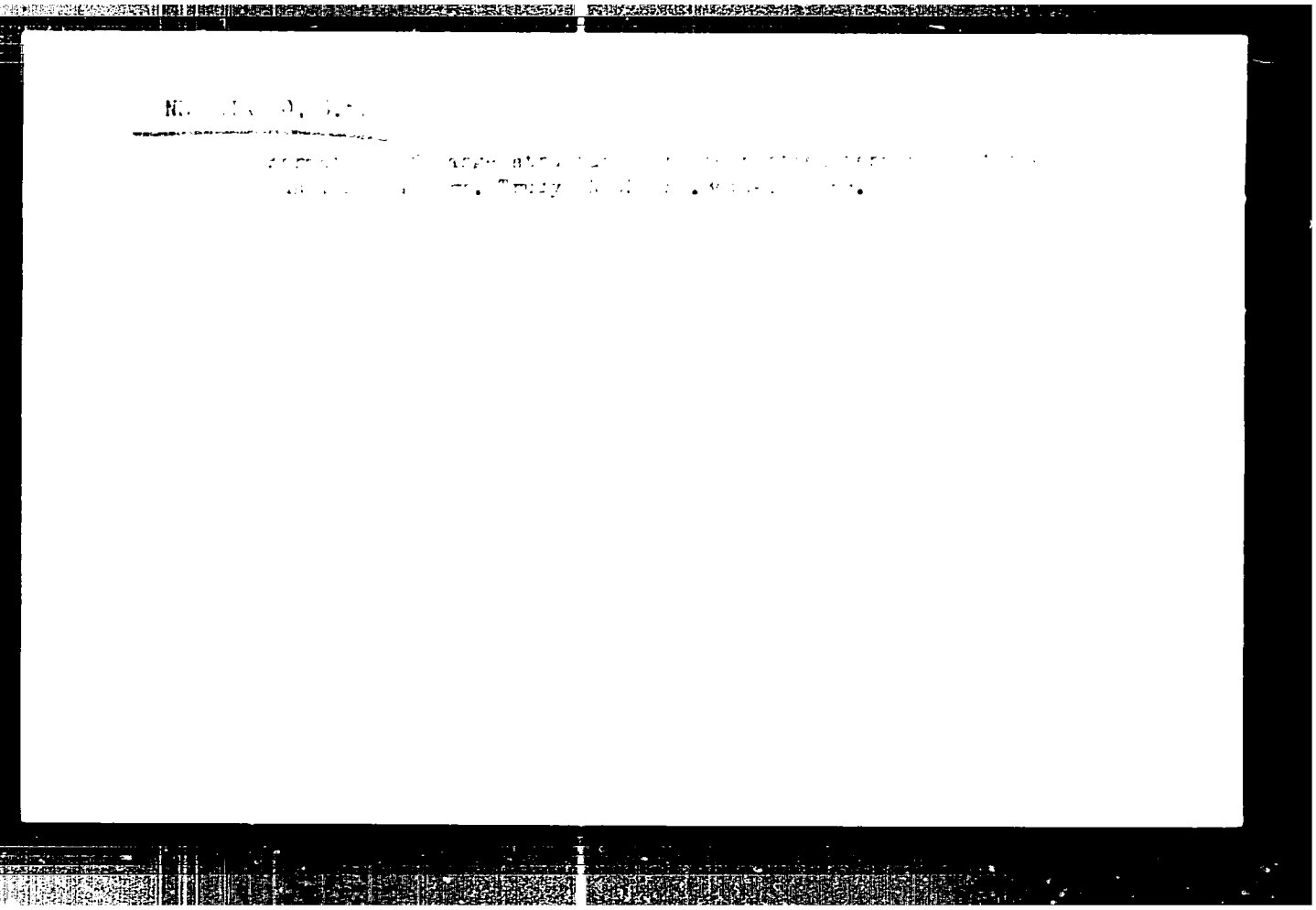
PRESENTED: May 27, 1959, by N. M. Strakhov, Academician

SUBMITTED: April 23, 1959

NECHITAYLO, Sergey Kirillovich. Prinimali uchastiye: SKVORTSOVA, Ye.N., geolog; POPOVA, L.V., geolog. CHEPIKOV, K.R., red.; DEMENT'YEVA, T.A., vedushchiy red.; GANINA, L.V., tekhn.red.

[Geology, and oil and gas potentials of inadequately investigated areas in the northeastern Russian Platform] Geologicheskoe stroenie i perspektivy nefte-gazonosnosti novykh raionov severo-vostochnoi chasti Russkoi platformy. Pod red.K.R.Chepikova. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1960. 177 p. (MIRA 14:1)

1. Chlen-korrespondent AN SSSR (for Chepikov).
(Russian Platform--Petroleum geology)
(Russian Platform--Gas, Natural--Geology)



L 54736-65 EWG(j)/EWT(m)/EWP(w)/EPF(c)/EWA(d)/EPR/T/EWP(t)/EWP(b)/EWA(c)
Pr-4/Ps-4 IJP(c) JD
ACCESSION NR: AP5015444 UR/0185/65/010/006/0676/0681

AUTHOR: Tresvyats'kyy, S. H. (Tresvyatskiy, S. G.); Nazarenko, N. D.; Dubok, V. A.; Nechytaylo, V. F. (Nechitaylo, V. F.)

TITLE: Production and properties of magnesium-oxide whiskers

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 10, no. 6, 1965, 676-681

TOPIC TAGS: magnesium oxide, magnesium oxide whisker, whisker growing, whisker growing method, whisker property, whisker tensile strength

ABSTRACT: A method and equipment for growing magnesium-oxide whiskers from the vapor phase have been developed and the tensile strength of the obtained whiskers has been measured. 99.5%-pure magnesium oxide in a graphite crucible was placed in a tubular furnace evacuated to a residual pressure of 0.1—1 mm Hg, heated in about 1.5 hr to 2000C, and held at this temperature for 1 hr. The whiskers grown on the graphite cover of the crucible (at about 1000 ± 50C) were 8—13 mm long and varied from 1.5 to 20 μ in diameter. No noticeable difference between the purity of the whiskers and that of the initial magnesium oxide was detected by

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L 54736-65

ACCESSION NR: AP5015444

spectral analysis. Tensile tests showed that with decreasing diameter the tensile strength of the whiskers approached the theoretical. The majority of the MgO whiskers with a diameter less than 3—5 μ had a tensile strength of 10^4 kg/cm^2. Orig. art. has: 7 figures. [MS]

ASSOCIATION: Instytut problem metaloznavstva AN URSR (Institute of Problems of the Science of Metals, AN URSR)

SUBMITTED: 22Jul64 ENCL: 00 SUB CODE: SS

NO REF SOV: 005 OTHER: 005 ATD PRESS: 4030

Card 2/2

SURZHIN, L.V., inzh.; NECHITAYLOV, A.V., inzh.

Circuit for automatic reclosing and switching-in of auxiliary power supply for substations with two triple-wound electric transformers. Energetik 10 no.3:27-30 Mr '62. (MIRA 15:2)
(Electric substations)
(Electric protection)