KARPUKHIN, Nikita Sergeyevich, dotsent, kandidat tekhnicheskikh nauk; ZHDANOV, A.P., dotsent, kandidat tekhnicheskikh nauk, retsenzent; MURASHEV, V.I., professor, redaktor; THEPZHENKOV, R.I., dotsent, kandidat tekhnicheskikh nauk, nauchnyy redaktor; KOTIK, B.A., redaktor izdatel'stva; GUSEVA, S.S., tekhnicheskiy redaktor

[Reinforced concrete structures] Zhelezobetonnye konstruktsii. Izd. 2-oe, perer. Pod red. V.I.Murasheva. Moskva, Gos.izd-vo lit-ry po stroit. i arkhit., 1957. 442 p. (MIRA 10:10)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury (for Murashev)
(Reinforced concrete construction)

KARPUKHIN, N.S., dotsent

Testing the strength of reinforced concrete. Trudy MIIT 108:269-293 '59 (MIRA 13:3)
(Reinforced concrete--Testing)

KARPUKHIN, N.S., kand. tekhn. nauk, dotsent

Study of the endurance of concrete in connection with the design of bridge elements according to limiting states. Trudy MIIT no.152:5-20 '62. (MIRA 16:6)

(Concrete—Testing)

KARPUKHIN, N.S., kand. tekhn. nauk, dotsent

Study of the endurance of concrete subject to the repeated application of tension. Trudy MIIT no.152:33-43 '62. (MIRA 16:6)

(Concrete—Testing)

KARPUKHIN, N.S., kand. tekhn. nauk, dotsent

Study of the endurance of reinforced concrete girders subject to a repeatedly applied load. Trudy MIIT no.152:44-53 '62. (MIRA 16:6)

(Beams and girders—Testing)

KARPUKHIN, O.A.

S.

19 9

7539* (Russian.) Elastic Scattering of γ-Quanta With Energy up to 120 M.E.V. by Protons. Uprugoe rasseianie γ-kvantov s energiei do 120 mev protonami. B. B. Govorkov, V. I. Gol'danskii, O. A. Karpukhin, A. V. Kutsenko, and V. V. Pavlovskaia. Doklady Akademii Nauk SSSR, v. 111, Dec. 11, 1956, p. 988-991.

17

Discussion of Compton effect in protons; apparatus

Discussion of Compton effect in protons; apparatus and method for measuring the angular distribution of elastic scattering.

KARPUKHIN, O. A.

CARD 1 / 2 PA - 1939

SUBJECT USSR / PHYSICS
AUTHOR GOVORKOV, B.B., GOL'DANSKIJ, V.I., KARPUCHIN, O.A., KUZENKO, A.V. PAVLOVSKAJA, V.V.
TITLE The Elastic Scattering of γ-Quanta with an Energy of up to 120 MeV by Protons.
PERIODICAL Dokl.Akad.Nauk 111, fasc.5, 988-991 (1956)
Issued: 1 / 1957

Experiments were carried out by means of the 265 MeV-synchrotron of the Physical Institute "P.N.LEBEDEV" of the Academy of Science in the USSR. For the purpose of reducing the photon load of individual counters work was carried out in such a manner that the duration of the impulses of the synchrotron amounted to 1000 μ sec (instead of the usual 30 μ sec). The spectrum of the electrons impinging upon the target of the synchrotron was nearly triangular with the base of 75 to 119 MeV and with the maximum at 97 MeV. The elastic γ p-scattering at these energies was investigated by registration of the scattered γ-quanta solely with the help of telescopes which consist of scintillation counters. An attached drawing illustrates this experimental order. Observation was carried out with two telescopes which were fitted simultaneously under the angles 90° and 90°, 45 and 90°, 45 and 135° (in the laboratory system). Each telescope consisted of four liquid-scintillation-counters with a solution of terphenyl in toluene. The recording threshold for the γ-quanta in the case of both telescopes amounted to ~ 40 MeV. The light pulses emitted from the scintillators were recorded by means of photoelectronic multipliers

Dokl.Akad.Nauk 111,fasc.5,988-991 (1956) CARD 2 / 2 PA - 1939

FEU - 19 - II. Liquid hydrogen was used in a target vessel of penopolystirol. The determination of the effectively acting volume of the target is described.

Experimental results are shown in form of a graph. The cross section for the angle 90° amounts to $d\sigma/d\Omega = (1,35 \pm 0,13) \cdot 10^{-32}$ cm^2/sterad and agrees well with the results obtained by C.OXLEY and V.TELEGDI, Phys.Rev.100,435 (1955). However, in contrast to this work, the authors obtained a predominating scattering of photons into the rear hemisphere (for 45° - $d\sigma/d$ = $= (1,40 \pm 0,17) \cdot 10^{-32}$ cm^2/sterad; for 135°- $(2,25 \pm 0,45) \cdot 10^{-32}$ cm^2/sterad). This result has the following significance: Already at energies of γ quanta of up to 120 MeV the analysis of the COMPTON effect on protons, which is based only on the value of the anomalous statistical magnetic moment and results in a certain predominance of scattering in to the front hemisphere, is found to be insufficient. Apparently the interference of the scattering of γ -quanta on the proton as a punctiform source and on the nucleon-isobar becomes noticeable already at such energies, viz. because of the existence of an asymmetric nulceon cloud a dynamic magnetic moment of the nucleons occurs.

INSTITUTION: Physical Institute "P.N.LEBEDEV" of the Academy of Science in the USSR

KARPUKHIN, O.A.

"Dependence of Cross Section for Photoproduction of π^0-Mesons on Mass Number of Nuclei," by B. B. Govorkov, V. I. Gol-danskiy, O. A. Karpukhin. A. V. Kutsenko, and V. V. Pavlovskaya, Doklady Akademii Nauk SSSR, Vol 112, No 1, Jan 57, pp 37-40

The article describes "more accurate" measurements of the variation of cross section for π^0-meson production with mass number. "A particularly careful investigation was made in the region of small A."

The experimental technique is described. The 265-Mev synchrotron of the Physics Institute, Academy of Sciences USSR, was used.

A table of the cross sections relative to that for hydrogen and a graph of relative cross section vs mass number are given. (U)

SUM.1360

SOV/120-59-2-4/50

AUTHORS: Belovintsev, K.A., Karpukhin, O.A., Kutsenko, A.V., Shapkin, A.A., and Yablokov, B.N.

TITLE: An Apparatus for Measuring the Intensity Distribution in an Expanded γ-Ray Pulse from a Synchrotron (Pribor dlya izmereniya raspredeleniya intensivnosti v rastyanutom impul'se gamma-izlucheniya sinkhrotrona)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 2, pp 15-18 (USSR)

ABSTRACT: In most cases the 280 Mev γ-ray pulse from the FIAN synchrotron is expanded to 2-2.5 μ sec (Ref 1). When this is done, it is necessary to know the intensity distribution within the γ-ray pulse. It is further desirable to be able to determine this intensity distribution continuously in order to obtain the average form of the pulse during experiments. Such measurements can be carried out using a multichannel time analyser working with a suitable probe whose count is proportional to the instantaneous intensity (e.g. a scintillation counter). However, such equipment is expensive and bulky and its use is not always justified. Instead, a single channel analyser may be used for this purpose. The γ-ray pulse passes through the "window" of the analyser which looks

Card 1/3

SOV/120-59-2-4/50

An Apparatus for Measuring the Intensity Distribution in an Expanded γ-Ray Pulse from a Synchrotron

at a definite part of the pulse at a time and records it with an appropriate counter. The particular part of the pulse must then be related to the total intensity of the expanded pulse. The device described in the present paper can carry out this operation using a step-by-step switch. A NaI(Tl) crystal working in conjunction with a FEU-19 photomultiplier is used as the γ-ray detector. The amplitude of the pulse at the photomultiplier load is proportional to the instantaneous value of the intensity of the expanded γ-ray pulse. The output from the photomultiplier is fed into two channels. The first channel (integral) sums up all the pulses fed into it and is in fact simply a monitor, and the counts recorded by it are proportional to the integral intensity of the synchrotron. The second channel is a differential one and will pass only the part of the pulse defined by the analyser "window", and the counts recorded through this channel are proportional to the intensity at the given instant of time. The width of the "window" can be either 50 or 100 μ sec. The "window" may be moved along

Card 2/3

SOV/120-59-2-4/50

An Apparatus for Measuring the Intensity Distribution in an Expanded γ-ray Pulse from a Synchrotron

the time scale either by hand using a time delay circuit, or the whole pulse is split into n sections and the instrument automatically covers the whole time interval using a step-by-step switch. The circuits of the two channels are shown in Fig 2 and the time delay circuit is shown in Fig 3. The step-by-step switch is shown in Fig 4. The apparatus has been used in studying elastic scattering of γ quanta on protons (Ref 4), photo-production of π^0-mesons (Ref 3) and electron distributions associated with radial-phase oscillations.
There are 4 figures and 4 Soviet references.

Card 3/3

ASSOCIATION: Fizicheskiy Institut AN SSSR (Physical Institute of the Academy of Sciences of the USSR)

SUBMITTED: March 31, 1958

Karpukhin, O.A.

81979
S/120/60/000/03/004/055
E032/E514

24.6810

AUTHORS: Gol'danskiy, V.I., Karpukhin, O.A. and Pavlovskaya, V.V.

TITLE: Determination of the Energy Dependence of the Efficiency of Recording of High-Energy Gamma Rays 19

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 3, pp 23-26

ABSTRACT: A new method is described for determining the energy dependence of the efficiency of recording of high-energy gamma rays (35-50 MeV) using a coincidence telescope. The method is based on measurements of Compton scattered gamma rays. The Compton cross-section is well-known and is given by the Klein-Nishina formula. At small angles the scattered gamma rays have a relatively large energy. Thus, for example, at a scattering angle of θ = 3° and incident gamma ray energy of 250 MeV, the energy of the scattered gamma ray is about 150 MeV. Thus by placing a gamma ray telescope at an angle of 3° to the beam axis, and by varying the maximum energy of the bremsstrahlung from a synchrotron, one can examine a wide energy range. The experiment was carried out in the gamma-beam of the

Card 1/2

44

81979

S/120/60/000/03/004/055
E032/E514

Determination of the Energy Dependence of the Efficiency of Recording of High-Energy Gamma Rays

265 MeV synchrotron at the Physics Institute, Ac.Sc., USSR. The experimental arrangement is shown in Fig 1. The gamma ray beam from the synchrotron target was collimated by a lead collimator, its maximum energy being set to 250, 200, 150, 115, 80 and 60 MeV. The gamma rays scattered at angles less than 3° were detected by the four-counter telescope shown in Fig 2. The efficiency of recording of gamma rays between 35 MeV and 150 MeV was measured as a function of energy, and the result obtained is shown in Fig 5. Acknowledgment is made to A.V.Kutsenko, A.Samiullin, S.P. Balat'yev and Ye. M. Petrov for help during the measurements.

There are 5 figures and 7 English references.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute, Ac.Sc., USSR)

SUBMITTED: May 25, 1959

Card 2/2

85676

S/056/60/038/006/018/049/XX
B006/B070

24.6900 (1138, 1191, 1559)

AUTHORS: Gol'danskiy, V. I., Karpukhin, O. A., Kutsenko, A. V., Pavlovskaya, V. V.

TITLE: Elastic γp Scattering 19 at Energies of 40 - 70 Mev 19 and the Polarizability of the Proton 19

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 6, pp. 1695 - 1707

TEXT: The present paper gives a detailed description of the results of scattering experiments, of the determination of the differential elastic γp scattering cross sections, and of a comparison of the results with theory. The object of the experiments was to obtain more exact data giving a definite information on the polarizability of the proton. The experiments were carried out on the 265-Mv synchrotron of FIAN in the gamma energy range of 40 - 70 Mev (maximum bremsstrahlung energy, 75 Mev), and so essentially lower than the π^0 production threshold. The experimental arrangement is schematically shown in Fig. 1. The

Card 1/7

85676

Elastic γp Scattering at Energies of
40 - 70 Mev and the Polarizability
of the Proton

S/056/60/038/006/018/049/XX
B006/B070

target was a cylindrical vessel (3.5 l) filled with liquid hydrogen. Two telescopes consisting of four scintillation counters with a lead converter behind the first and an aluminum filter in front of the last served as high-threshold (~35Mev) gamma detectors. Each counter was connected with an ФЭУ-33 (FEU-33). The block diagram of the electronic apparatus is shown in Fig. 2. A thin-walled ionization chamber placed in front of the first collimator served as an intermediate monitor. The duration of the electron pulses of the synchrotron was up to ~300 μsec. The detecting telescopes were placed at angles of 45, 75, 90, 120, 135, and 150° with respect to the bremsstrahlung beam. The experimental conditions and the apparatus are thoroughly described in the paper. One section is devoted to the description of the telescope efficiency, and one to the evaluation of the experimental results. A table gives the measured values of $d\sigma/d\Omega$, the necessary corrections, and the final values. The determination of the corrections for the background and for the absorption in the target, and the determination of the systematic errors are discussed in the text.

Card 2/7

85676

Elastic γp Scattering at Energies of
40 - 70 Mev and the Polarizability
of the Proton

S/056/60/038/006/018/049/XX
B006/B070

The data obtained are compared with the theoretical results which were obtained by taking into account the anomalous magnetic moment of the proton and the effects of mesonic cloud polarization (see Fig. 5). From $d\sigma/d\Omega(90^{\circ}) = (1.10\pm0.05)\cdot10^{-32}$ cm² steradian, the proton polarizability (electric) was found to be: $\alpha_E=(11\pm4)\cdot10^{-43}\,\mathrm{cm}^3$. If dispersion relations are used in addition to the experimental results, it is possible to calculate, from the pion photoproduction data, the sum of electric and magnetic polarizability: $\alpha_E+\alpha_M=11\cdot10^{-43}\,\mathrm{cm}^3$ (Fig. 6). Then, taking into account also the errors, one finds $\alpha_E=(9\pm2)\cdot10^{-43}\,\mathrm{cm}^3$ and $\alpha_M=(2\mp2)\cdot10^{-43}\,\mathrm{cm}^3$. The results are finally discussed and compared with results of other authors. In particular, the results of neutron polarizability obtained by various authors are discussed and intercompared. From the value $\alpha_E = 9\cdot10^{-43}\,\mathrm{cm}^3$ obtained for protons, the root-mean-square fluctuation of the proton electric dipole length is found to be $(\overline{r^2})^{1/2} = 3.5 - 5\cdot10^{-14}$ cm.

Card 3/7

85676

Elastic γp Scattering at Energies of 40 - 70 Mev and the Polarizability of the Proton

S/056/60/038/006/018/049/XX
B006/B070

S. P. Balat'yev, R. G. Vasil'kov, Ye. V. Minarik, and A. Samiullin are thanked for assistance, G. Ivanov for help in the evaluation of measurements; and A. M. Baldin and V. N. Gribov for discussions. Yu. A. Aleksandrov and V. A. Petrun'kin are mentioned. There are 6 figures, 1 table, and 30 references: 10 Soviet, 18 US, and 2 Dutch.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Institute of Physics imeni P. N. Lebedev of the Academy of Sciences USSR)

SUBMITTED: January 12, 1960

Card 4/7

85676

S/056/60/038/006/018/049/XX
B006/B070

45	4,66±0,28	—146	3,40±0,28
75	1,21±0,08	—12,6	1,12±0,08
90	1,14±0,05	—7,7	1,10±0,05
120	1,30±0,08	—1,6	1,34±0,08
135	1,48±0,08	—1,0	1,56±0,08
150	1,82±0,07	—0,4	1,93±0,07

Fig. 1

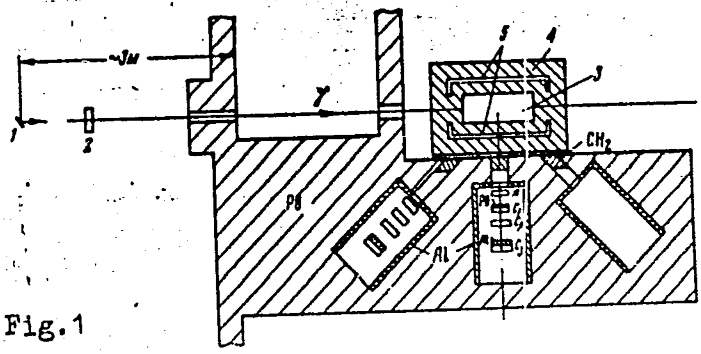


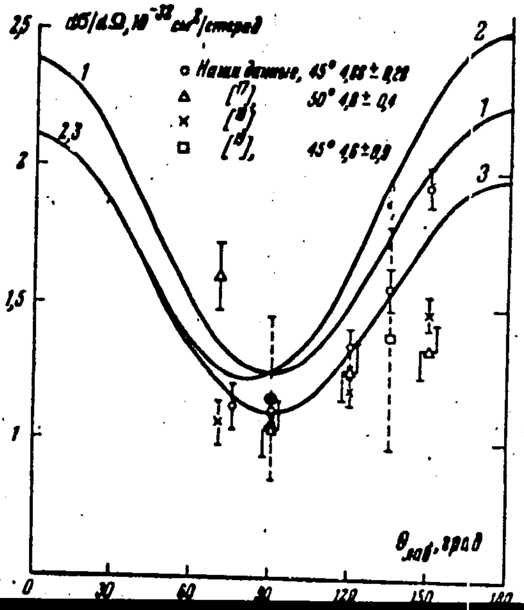
Fig.1

Card 5/7

85676

S/056/60/038/006/018/049/XX
B006/B070

Fig. 5



Card 6/7

Fig. 5

85676

S/056/60/038/006/018/049/XX
3006/B070

Legend to Fig. 1: 1 - synchrotron target; 2 - monitor; 3 - liquid hydrogen target; 4 - polystyrene walls; 5 - liquid N_2; C_1, C_2, C_3 scintillation counters in coincidence; A - anti-coincidence countor. Headings of the four columns of the table: angle θ [degrees]; $10^{32}\cdot d\sigma/d\Omega\,cm^2$/steradian (without corrections); total corrections; $10^{32}\cdot d\sigma/d\Omega\,cm^3$/steradian (final values). Legend to Fig. 5: Comparison of the experimental results in this paper (o) in the laboratory system with other experimental results and with theoretical curves.

X

Card 7/7

S/056/60/039/005/046/051
B006/B077

AUTHORS: Gol'danskiy, V. I., Karpukhin, O. A., Petrov, G. G.

TITLE: Observation of the Positronium Reaction in Aqueous Solutions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 5(11), pp. 1477 - 1478

TEXT: The present " Letter to the Editor" brings a contribution to the problem of the positron annihilation in aqueous solutions and the influence of different additions on these. The purpose of the tests whose results are compiled in a table was to prove that the different additions act mainly kinetically on the positronium annihilation in aqueous solutions and also to show a comparison of these effects with the oxidation - reduction characteristics and magnetic characteristics of different ions. The authors investigated the rate of 3γ-annihilation of positrons from an Na^{22} source (0.1 mC) in aqueous solutions. The table shows the data with respect to the 3γ-annihilation rate compared to pure water under the

Card 1/4

Observation of the Positronium Reaction in Aqueous Solutions

S/056/60/039/005/046/051
B006/B077

influence of different additions (mainly different cations in the presence of positronium - inert Cl^- anions). A general tendency to a decrease of the $C_{3\gamma}$ counting rate is found if stronger oxydizers are used but strong deviations can be found too. The deviations may frequently be caused through a $^3S_o \rightarrow {}^1S_o$ conversion at unpaired electrons of paramagnetic ions, but there is no specific connection between the magnetic properties of the ions and the quantity $C_{3\gamma}$. A strong decrease of the $C_{3\gamma}$ counting rate was found also by other authors, if NO_3^- ions were added and also that MnO_4^- ions acted stronger yet. The following data characterize the concentration dependence of $C_{3\gamma}$ for MnO_4^- additions as compared to neutral solutions:

Card 2/4

Observation of the Positronium Reaction in Aqueous Solutions

S/056/60/039/005/046/051
B006/B077

Concentration MnO_4^- in mole/l	saturated solution	0.1	0.01	0.001	0(water)
$C_{3\gamma}$ min^{-1}	3.6±0.42	5.08±0.45	5.08±0.12	5.50±0.30	6.04±0.09

The authors thank Academician A. N. Frumkin for discussions of the results obtained. There are 1 table and 4 non-Soviet references.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute imeni P. N. Lebedev of the Academy of Sciences USSR). Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

SUBMITTED: August 2, 1960

S/056/60/039/005/046/051
B006/B077

Вещество 1	Концентрация, моль/л 2	Стандартный окислительно-восстановительный потенциал для указанной в скобках пары окислитель-восстановитель 3	Число неспаренных электронов 4	Разница в $C_{э\gamma}$ ($мин^{-1}$) по отношению к воде 5
KOH	1	+2,92 (K^+/K)		−0,02±0,31
$BaCl_2$	2	+2.92 (Ba^{++}/Ba)		−0,55±0,39
NaCl	2	+2,71 (Na^+/Na)		+0,07±0,25
$MnCl_2$	2	+1,10 (Mn^{++}/Mn)	5	−0,57±0,26
$ZnCl_2$	2	+0,76 (Zn^{++}/Zn)		+0,24±0,34
$FeCl_2$	0,1	+0,44 (Fe^{++}/Fe)	4	−0,99±0,27
$CrCl_3$	2	+0,41 (Cr^{+++}/Cr^{++})	3	−1,70±0,28
$TlNO_3$	6 насыщение	+0,34 (Tl^+/Tl)		−1,24±0,29
$CoCl_2$	2	+0,27 (Co^{++}/Co)	3	−1,17±0,40
$NiSO_4$	2	+0,23 (Ni^{++}/Ni)	2	−1,03±0,36
$CuCl_2$	2	−0,34 (Cu^{++}/Cu)	1	−1,85±0,31
$FeCl_3$	2	−0,77 (Fe^{+++}/Fe^{++})	5	−2,62±0,33
$FeCl_3$	0,1	−0,77 (Fe^{+++}/Fe^{++})	5	−1,41±0,28
$KMnO_4$	6 насыщение	−1,63 ($MnO'_4 + 3e/MnO_2$)		−2,44±0,42
H_2O_2	30 вес. % 7	−1,78 ($H_2O_2 + 2e/H_2O$)		−1,55±0,28

Table

Legend to the Table:
1) Substance; 2) Concentration in mole/l; 3) Standard redox potential for the oxidizer-reducer pairs given; 4) Number of unpaired electrons; 5) Difference of $C_{3\gamma}$ as compared to water; 6) Saturation; 7) % by weight.

Card 4/4

5(4)

SOV/20-124-6-21/55

AUTHORS: Vasil'yev, R. F., Karpukhin, O. N., Shlyapintokh, V. Ya., Emanuel', N. M., Corresponding Member, AS USSR

TITLE: Gas Initiation by Ozone in the Reaction of the Oxidation of Isodecane and the Chemiluminescence Connected With It (Gazovoye initsiirovaniye ozonom v reaktsii okisleniya izodekana i svyazannaya s nim khemilyuminestsentsiya)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 6, pp 1258-1260 (USSR)

ABSTRACT: The present paper deals with the stage of initiation by ozone in segregated form, i.e. the authors investigate such phenomena and processes as occur during the short action of the initiator. Isodecane (2.7-dimethyl-octane) was used as test object. Preliminary tests showed that if ozone is blown past during a short time the reaction is accelerated considerably. The authors recorded a weak glow which was produced during the bubbling of oxygen (containing 2-3 % ozone) by isodecane. This isodecane was in a glass oxidation cell at temperatures of 20-90°. By glow the photomultiplier FEU-19 served as an indicator of the glow. The photoelectric current was recorded

Card 1/3

Gas Initiation by Ozone in the Reaction of the SOV/20-124-6-21/55
Oxidation of Isodecane and the Chemiluminescence Connected With It

by means of the electronic potentiometer EPPV-51. The first diagram shows the intensity of glow as a function of time during the uninterrupted blowing-through of ozone and isodecane at a temperature of 55°. Intensity increases gradually and, after 2.5 hours, it attains a maximum after which it gradually decreases. As soon as the adding of ozone is interrupted, the glow immediately vanishes in all stages of the reaction. If ozone is again supplied, the previous intensity is quickly restored. According to these results the glow is caused in the interaction between ozone and a compound, which was formed already before this interaction as the result of a reaction of ozone with carbon. The above mentioned intensity maximum indicates that the concentration of this hypothetical compound passes through a maximum. In this case the kinetics of the accumulation of this compound agrees with the kinetics of the accumulation of the intermediate product in the case of successive chemical reaction. An other possibility of explaining the phenomena discussed is rejected on the grounds of being unsuited. A further proof of the intermediate character of the product of primary interaction

Card 2/3

Gas Initiation by Ozone in the Reaction of the Oxidation of Isodecane and the Chemiluminescence Connected With It SOV/20-124-6-21/55

with ozone was supplied by experiments carried out with higher temperatures. Thus, the interaction between ozone and normal hydrocarbons at moderate temperatures is a complicated process in the course of which a relatively stable intermediate compound is formed. There are 3 figures and 4 Soviet references.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences, USSR)

SUBMITTED: October 29, 1958

Card 3/3

5(4)

AUTHORS: Vasil'yev, R. F., Karpukhin, O. N., Shlyapintokh, V. Ya. SOV/20-125-1-28/67

TITLE: Chemiluminescence in Reactions of Thermal Decomposition (Khemilyuminestsentsiya v reaktsiyakh termicheskogo raspada)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 1, pp 106-109 (USSR)

ABSTRACT: The present paper describes the results obtained from experiments, in which a very weak luminescence was detected. The luminescence in question occurs with the decomposition of some organic compounds in hydrocarbons as solvents. A figure illustrates the scheme of the apparatus used for recording the luminescence. The reaction takes place in a cuvette placed in a transparent chamber. The cuvette is enclosed by a water-heated outer glass wall which acts as a thermostat. The image of the cuvette is then projected onto the photocathode of the photomultiplier FEU-19, and the current supplied by the latter is recorded by an electronic potentiometer EPPV-51. The authors investigated the thermal decomposition of the hydrogen peroxides of Tetralin; 2,7-dimethyloctane; isopropylbenzene; benzoyl peroxide and isoazobutyronitryl. Chlorobenzene was used as a

Card 1/3

SOV/20-125-1-28/67

Chemiluminescence in Reactions of Thermal Decomposition

solvent in all reactions. A table specifies the conditions under which the reaction was investigated. According to the experimental results, the intensity of luminescence increases with rising temperature. In the case of the hydrogen peroxides of 2,7-dimethyl octane and of tetralin as well as of benzoyl peroxide, the law $I \sim \exp(-A/RT)$ holds with good accuracy for the intensity of luminescence. For these substances the temperature coefficients amount to 29.3±1.0; 26.5±1.5; 31.9±1.0. At a given temperature, intensity remains unvaried for many hours; however, there is a limit temperature for each substance, beyond which intensity decreases according to an exponential law. The existence of a chemiluminescence signifies that the reaction zone contains excited particles. In all of the chemical systems investigated by the authors, only recombination reactions of radicals bring about an excitation. The following dependence on time and temperature applies for the intensity of luminescence: $I \sim e^{-E/RT} e^{-kt}$. Most of the reactions investigated here agreed well with this law. The temperature coefficients A determined by the authors are in agreement with the activation energies of the

Card 2/3

Chemiluminescence in Reactions of Thermal Decomposition

SOV/20-125-1-28/67

decomposition of the corresponding substances. Chemiluminescence reactions may widely occur even in simple reactions. The authors probably observed the luminescence of primary excited particles. There are 3 figures, 1 table, and 6 references, 2 of which are Soviet.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences, USSR)

PRESENTED: October 29, 1958, by V. N. Kondrat'yev, Academician

SUBMITTED: September 20, 1958.

Card 3/3

ENTELIS, S.G.; SHLYAPINTOKH, V.Ya.; KARPUKHIN, O.N.; NESTEROV, O.V.

Chemiluminescence in the reaction involving the formation of nylon when the process is carried out in solution and at the phase boundary. Vysokom. soed. 2 no. 3:463 Mr '60.

(MIRA 13:11)

(Nylon) (Luminescence)

S/076/60/034/007/040/042/XX
B004/B068

AUTHORS: Entelis, S. G., Shlyapintokh, V. Ya., Karpukhin, O. N., and Nesterov, O. V.

TITLE: Chemiluminescence in Reactions of Acid Chlorides With Amines and Ketones

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 7, p. 1651

TEXT: It was established by the authors that the acylation of amines and ketones by organic acid chlorides is accompanied by chemiluminescence. Luminescence can be observed with an ФЭУ-29 (FEU-29) photomultiplier sensitive to the range from 350 - 610 mμ. The following reactions of the components dissolved in organic solvents are mentioned:

Card 1/3

Chemiluminescence in Reactions of Acid Chlorides With Amines and Ketones

S/076/60/034/007/040/042/XX
B004/B068

Reaction	Signal*	
$C_6H_5NH_2 + C_6H_5COCl$	0	(dissolved in chlorobenzene)
$C_6H_5NH_2 + C_6H_5COCl$	0.55	(dissolved in benzene)
$C_6H_5NH_2 + C_6H_5COCl$	2-5.5	(dissolved in acetone)
$C_6H_5NH_2 + ClOC(CH_2)_4COCl$	6.5	(amine in acetone, chloride in toluene)
$C_6H_5NH_2 + ClOC(CH_2)_4COCl$	7	(amine in benzene, chloride in toluene)
$CH_3COCH_3 + C_6H_5COCl$	0.35	(ketone in acetone, chloride in benzene)
$CH_3COCH_3 + ClOC(CH_2)_4COCl$	0.7	(ketone in acetone, chloride in toluene)
$C_6H_5NH_2 + HCl$	0.01	(dissolved in chlorobenzene)

* The intensity of the signal is expressed in relative units. About $2\cdot 10^4$ quanta/sec.cm^3 of the reaction volume are taken as unit. There is 1 table.

Card 2/3

Chemiluminescence in Reactions of Acid Chlorides With Amines and Ketones

S/076/60/034/007/040/042/XX
B004/B068

ASSOCIATION: Akademiya nauk SSSR, Institut khimicheskoy fiziki, Moskva (Academy of Sciences USSR, Institute of Chemical Physics, Moscow)

SUBMITTED: December 29, 1959

√

Card 3/3

VASIL'YEV, R.F.; KARPUKHIN, O.N.; SHLYAPINTOKH, V.Ya.

Setup for measuring weak luminous fluxes. Zhur. fiz. khim. 35 no.2:461-462 F '61. (MIRA 16:7)

1. Institut khimicheskoy fiziki AN SSSR, Moskva.
(Photometry) (Luminescence)

L 15475-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD/APGC Ps-4/Pc-4/
Pr-4 BW/WW/RM/JFW/MN

ACCESSION NR: AP3005455 S/0204/63/003/004/0579/0583

AUTHORS: Karpukhin, O.N.; Rusina, I. F.; Nikiforov, G. A.; [redacted] Ya.

8/
77

TITLE: Steric hindrance of phenolphtaleins and the possibility of their utilization in the study of oxidation-inhibiting processes

11

SOURCE: Neftekhimiya, v. 3, no. 4, 1963, 579-583

TOPIC TAGS: tetraisopropylphenolphthalein, phenolphtalein, naphthol, colorimetry, diphenylpicrylhydrazyl

ABSTRACT: In order to obtain a highly effective anti-oxidation inhibitor known as tetraisopropylphenolphtalein was synthesized. Phenolphthalein was taken as the base since it possesses colorimetric properties in an alkaline media. Two isopropyl groups were introduced into the phenolphthalein radical to produce an inhibitor which is close to the activity of alpha-naphthol. The concentration of this inhibitor can be easily measured colorimetrically through its

Card 1/2

L 15475-63
ACCESSION NR: AP3005455

4

intensive and stable coloration in an alkaline media. The sensitivity of tetraisopropylphenolphthalein analysis is several times greater than the sensitivity of diphenylpicrylhydrazyl. The kinetics of tetraisopropylphenolphthalein consumption was measured in the oxidation reaction of ethylbenzol initiated with azobisisobutyronitrile. It is suggested that tretraisopropylphenolphthalein should be used in the study of kinetics and mechanism of the oxidation-inhibiting processes for the measurement of the rate of formation of free radicals in the solutions. "The authors express their gratitude to L. G. Bulavin for his advice to use inhibitors for radical reactions which have phthalein bases." The orig. art. has: 3 figures, 1 formula.

ASSOCIATION: Institut khimicheskoy fiziki, AN SSSR (Institute of chemical physics, AN SSSR)

SUBMITTED: 15Jun62	DATE ACQ: 09Jan63	ENCL: 00
SUB CODE: CH, PH	NO. REF SOV: 002	OTHER: 003

Card 2/2

VASIL'YEV, R.F.; VICHUTINSKIY, A.A.; KARPUKHIN, O.N.; SHLYAPINTOKH, V.Ya.

Chemiluminescence in slow chemical reactions. Part 2: Effect of the chemical composition of the system on chemiluminescence intensity. Kin. i kat. 4 no.3:382-387 My-Je '63. (MIRA 16:7)

1. Institut khimicheskoy fiziki AN SSSR.
(Luminescence) (Chemical reaction, Rate of)

KARPUKHIN, O.N.; SHLYAPINTOKH, V.Ya.; RUSINA, I.F.; ZOLOTOVA, N.V.

Chemiluminescent method for determining the inhibitors of free radical reactions. Zhur.anal.khim. 18 no.8:1021-1025 Ag '63. (MIRA 16:12)

1. Institute of Chemical Physics, Academy of Sciences, U.S.S.R., Moscow.

L 17723-63 EWP(j)/EPF(c)/EWT(m)/BDS Pc-4/Pr-4 RM/WW/JFW

ACCESSION NR: AP3004076 S/0076/63/0037/007/1636/1638

AUTHORS: Karpukhin, O. N.; Shlyapintokh, V. Ya.; Zolotova, N. V.; Kozlova, Z. G.; Rusina, I. F.

7 71
70

TITLE: Mechanism of weakening of the chemiluminescence with inhibitors of free radical reactions

SOURCE: Zhurnal fizicheskoy khimii, v. 37, no. 7, 1963, 1636-1638

TOPIC TAGS: chemiluminescence, free radical, inhibitor, ethylbenzene, cumole, dimethyloctane, azobisisotutyronitrile

ABSTRACT: Chemiluminescence in radical reactions takes place during the recombination of free radicals. It can be expected that the addition of strong inhibitors will weaken the chemiluminescence in the visible region by means of their interaction with the free radicals and thus decreasing the concentration of radicals. The effect of inhibitors upon the chemiluminescence was studied in the reactions of initial oxidation of hydrocarbons such as ethylbenzene, cumole, 2,7-dimethyloctane and others. Azobisisotutyronitrile was used as the inhibitor. It was found that in reactions of initial oxidation of hydrocarbons the intensity of chemiluminescence was lowered by the introduction of various inhibitors. The main reason for the decrease in luminescence is the decrease of concentration of

Card 1/2

L 17723-63

ACCESSION NR: AP3004076

active free radicals in the presence of inhibitors. Orig art. has: 2 figures and 4 formulas.

ASSOCIATION: Akademiya nauk SSSR, Institut khimicheskoy fiziki (Academy of Sciences SSSR, Institute of Chemical Physics)

SUBMITTED: 29Oct62 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: CH NO REF SOV: 005 OTHER: 001

Card 2/2

KARPUKHIN, O.N.; SHLYAPINTOKH, V.Ya.; ZOLOTOVA, N.V.

Chemiluminescence in the reactions of inhibited oxidation and the activity of inhibitors. Report No.1: Theory of chemiluminescent methods for determining the activity of inhibitors. Izv. AN SSSR Ser.khim. no.10:1718-1721 O '63.

Chemiluminescence in the reactions of inhibited oxidation and the activity of inhibitors. Report No.2: Measurement of the activity of inhibitors by the chemiluminescent methods. 1722-1727 (MIRA 17:3)

1. Institut khimicheskoy fiziki AN SSSR.

SHLYAPINTOKH, V.Ya.; POSTNIKOV, L.M.; KARPUKHIN, O.N.; VERETIL'NYY, A.Ya.

Chemiluminescence during alternating current electrolysis. Zhur.fiz. khim. 37 no.10:2374-2375 O '63. (MIRA 17:2)

L 34143-65 EWT(1)/EWT(m)/EWG(m)/T IJP(c) RWH/GS

ACCESSION NR: AT5006090 S/0000/64/000/000/0137/0145

28
B

AUTHOR: Vasil'yev, R.F.; Vichutinskiy, A.A.; Zakharov, I. V.; Karpukhin, O. N.; Postnikov, L. M.; Shlyapintokh, V. Ya.

TITLE: Chemiluminescence in the study of the kinetics and mechanism of chemical reactions of organic compounds

SOURCE: Soveshchaniye po fizicheskim metodam issledovaniya organicheskikh soyedineniy i khimicheskikh protsessov. Frunze, 1962. Trudy. Frunze, Izd-vo Ilim, 1964, 137-145

TOPIC TAGS: reaction kinetics, organic mechanism, chemiluminescence, radical recombination, luminescence spectrum, hydrocarbon oxidation, hydroperoxide decomposition

ABSTRACT: The article deals with the chemiluminescence produced by recombination in radical reactions. Measurement of the intensity of chemiluminescence at various temperatures provides a rapid method for determining the initiation rate or the activation energy of decomposition of the initiator of the reaction. The temperature dependence of the intensity of chemiluminescence in the course of oxidation of various hydrocarbons initiated by different hydroperoxides is discussed,

Card 1/2

L 34143-65

ACCESSION NR: AT5006090

2

and the kinetics of catalyzed oxidation and hydroperoxide decomposition is considered on the basis of data in the literature. It is noted that the activation of chemiluminescence by additions of luminescing substances shifts the limits of applicability of chemiluminescence methods toward lower temperatures and reagent concentrations (i.e., low reaction rates and low intensities of luminescence). Chemiluminescence is therefore a convenient method of studying the kinetics of certain chemical reactions. Orig. art. has: 5 figures, 4 formulas and 2 tables.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Chemical physics institute, AN SSSR)

SUBMITTED: 19Jun64 ENCL: 00 SUB CODE: OC

NO REF SOV: 018 OTHER: 002

Card 2/2

L 27269-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RPL BW/WW/JFW/JWD/RM

ACCESSION NR: AP4011449 S/0076/64/038/001/0156/0160

AUTHOR: Karpukhin, O. N. (Moscow); Shlyapintokh, V. Ya. (Moscow); Mikhaylov, I. D. (Moscow)

34
26
B

TITLE: Chemiluminescence and the rate of the elementary reaction in the co-oxidation of cumene and ethylbenzene.

SOURCE: Zhurnal fiz. khim. v. 38, no. 1, 1964, 156-160

TOPIC TAGS: chemiluminescence, oxidation kinetics, cumene oxidation kinetics, ethylbenzene oxidation kinetics, peroxide radical recombination

ABSTRACT: The dependence of the chemiluminescence intensity upon the mixture composition in the azobisisobutyronitrile-initiated co-oxidation of cumene and ethylbenzene was investigated. The system contains two kinds of active radicals whose recombination excites chemiluminescence. The relative contribution of each radical is shown in Figure 1, the change in intensity in relation to composition in Figure 2. Chemiluminescence intensity quantitative-

Card 1/43

L 27269-65

ACCESSION NR: AP4011449 2

ly characterized the relative reaction rates of recombination of the cumene and ethylbenzene radicals. Orig. art. has: 3 figures and 4 equations.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR)

SUBMITTED: 25Apr63 ENCL: 02

SUB CODE: GC, OP NO REF SOV: 010 OTHER: 001

Card 2/4

L 27269-65

ACCESSION NR: AP4011449

ENCLOSURE: 01

0

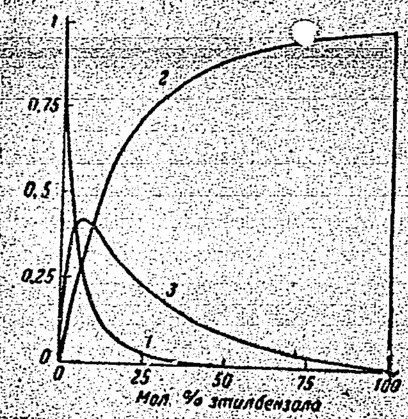


Figure 1: Relative contribution of the individual recombination reactions of the peroxide radicals to the total recombination rate in mixtures of cumene and ethylbenzene, depending on composition of the mixture at 60C. 1. recombination rate of cumene peroxide radicals.

2. recombination rate of ethylbenzene peroxide radicals.

3. recombination rate of cumene and ethylbenzen peroxide radicals

C

KARPUKHIN, O.N.; SHLYAPINTOKH, V.Ya.; MIKHAYLOV, I.D. (Moscow)

Chemiluminescence and the rate of elementary reactions in the cooxidation of cumene and ethylbenzene. Zhur. fiz. khim. 38 no.1:156-160 Ja'64. (MIRA 17:2)

1. Institut khimicheskoy fiziki AN SSSR.

L 27189-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 RPL BW/WW/JW/JFW/RM

ACCESSION NR: AP5006075 S/0204/65/005/001/0049/0052

AUTHOR: Khloplyankina, M. S.; Karpukhin, O. N.; Buchachenko, A. L.; Levin, P. I.

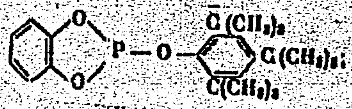
TITLE: Mechanism of inhibition by phosphites

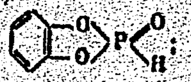
SOURCE: Neftekhimiya, v. 5, no. 1, 1965, 49-52

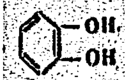
43
31
B

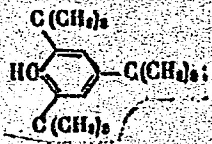
TOPIC TAGS: oxidation, inhibition, inhibitor, hydrocarbon oxidation, polymer oxidation, peroxide, phosphite, chemiluminescence

ABSTRACT: A study has been made of the mechanism of the inhibition by phosphites of hydrocarbon and polymer oxidation, as exemplified by the reaction of phosphites with peroxide radicals. A chemiluminescent method, described in an earlier study, of investigating oxidation reactions was used for the reaction at 600C in the presence of azobisisobutyronitrile of ethylphenyl peroxide radicals with the following phosphites, phosphates, or phenols:

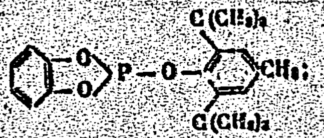
1.


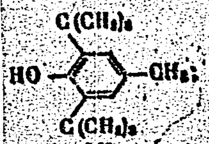
2.


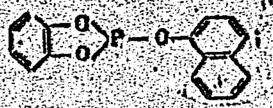
3.


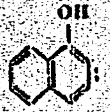
4.


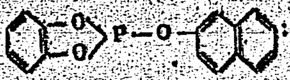
Card 1/3

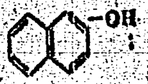
5.


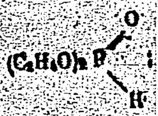
6.


7.


8.


9.


10.


11.


$(C_4H_9O)_2P(=O)H$

12. $(iso\text{-}C_4H_9O)_3P$;

13. $(iso\text{-}C_4H_9O)_3P=O$.

L 27189-65

ACCESSION NR: AP5006075

2

It was found that of the phosphites studied, only aryl phosphites react rapidly; the alkyl phosphites and phosphates hardly reacted at all. Analysis of the data suggested that at 60C, phosphites do not react with peroxide radicals; chemiluminescence quenching by aryl phosphites was attributed to peroxide-radical reaction with partial hydrolysis products of the phosphites. The rate of constants of the reactions of ethylbenzene peroxide radicals with pyrocatechol, and the number of chains terminated by one pyrocatechol molecule, were determined. The authors express their gratitude to V. Ya. Shlyapintokh for his assistance in the research and discussion of the results. Orig. art. has: 1 figure, 1 table, and 21 formulas.

[SM]

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR)

SUBMITTED: 28Nov63 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 005 OTHER: 003 ATD PRESS: 3191

L 35087-65 EWT(l)/EWT(m)/EPF(c)/EWP(j)/EWA(c) Pc-4/Pr-4 IJP(c)/RPL JW/RM

ACCESSION NR: AP5006703 S/0076/65/039/002/0498/0500

33

AUTHOR: Karpukhina, G. V.; Mayzus, Z. K.; Karpukhin, O. N. 29

TITLE: Chemiluminescence 21 study of the interactions of two inhibitors during hydrocarbon oxidation B

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 2, 1965, 498-500

TOPIC TAGS: inhibitor interaction, chemiluminescence, oxidation inhibitor, phenol, naphthylamine, hydrocarbon oxidation, ethylbenzene

ABSTRACT: The simultaneous use of several inhibitors for the suppression of oxidation often appears to be significantly more effective than the separate use of any of the inhibitor components. The mechanism of the simultaneous action of two inhibitors is not yet fully clarified. In a recent paper (Dokl. AN SSSR, 152, 120, 1963), the authors studied the consumption kinetics of several pairs of inhibitors, one member of which belonged to the class of amines and the other to the phenols. It was found that the phenol inhibitor was consumed at the same rate as if it were alone, while the amine concentration remained unchanged as long as there was any phenol present. In the present paper, the authors show that the chemiluminescent method can be used for the study of the mechanism by which a mix-

Card 1/2

L 35087-65

ACCESSION NR: AP5006703

4

ture of inhibitors acts during the oxidation of hydrocarbons. Tests using this method confirmed the intensive interaction between N-phenyl-β-naphthylamine and 2,6-di-tertiary-butylphenol inhibitors during their simultaneous presence in the ethylbenzene oxidation reaction. Orig. art. has: 5 formulas and 2 figures.

ASSOCIATION: Institut khimicheskoy fiziki, Akademiya nauk SSSR (Physical chemistry institute, Academy of sciences, SSSR)

SUBMITTED: 02Apr64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 003 OTHER: 000

Card 2/2

KOZLOV, S.T.; KARPUKHIN, O.N.; KARASEVA, Ye.A.

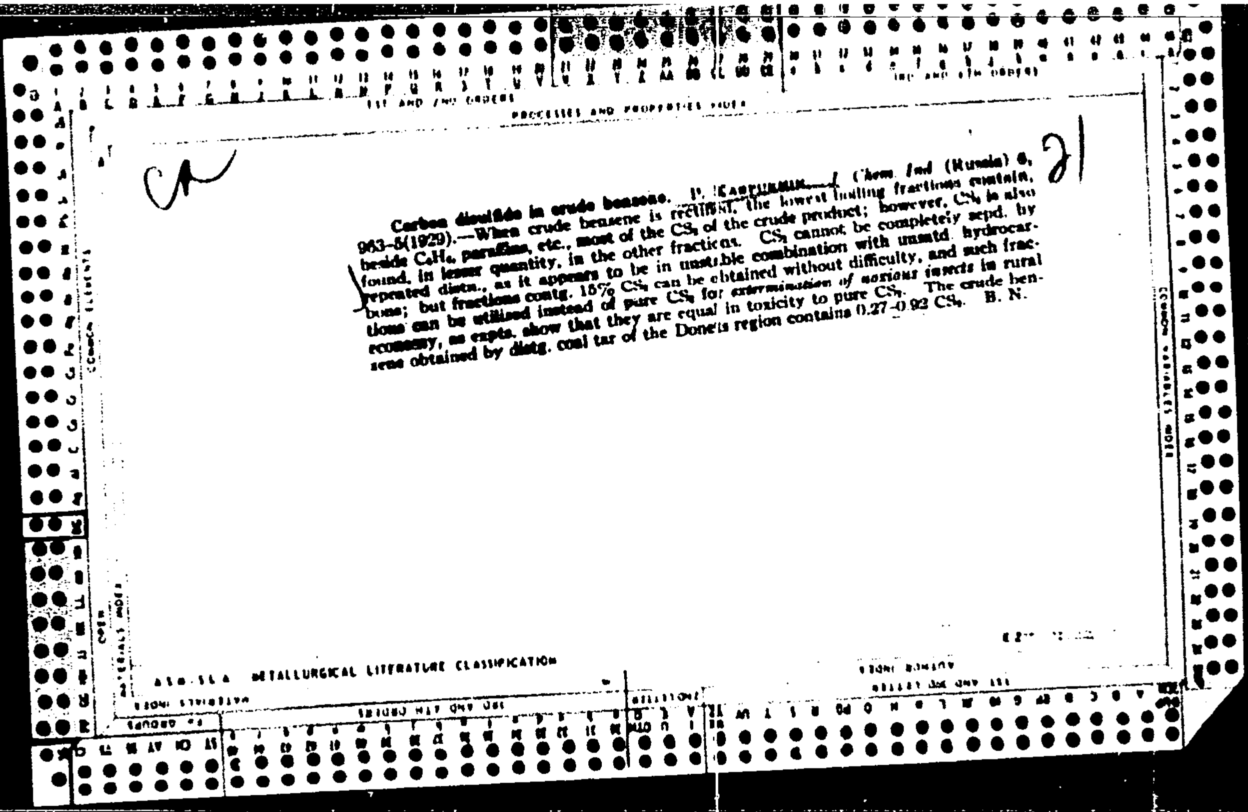
Pavilion "Science" of the Soviet section of the international exhibition "Chemistry in Industry, Construction and Agriculture." Priroda 54 no.12:3-5 D '65. (MIRA 18:12)

1. Institut khimicheskoy fiziki AN SSSR, Moskva (for Kozlov, Karpukhin). 2. Vsesoyuznoye ob"yedineniye "Izotop", Moskva (for Karaseva).

KARPUKHIN, P.O.; NABOYKIN, Yu.V.

Relation between the structure and the light fastness of insuluble azo dyes. Report No. 1. Ukr. khim. zhur. 26 no.6:736-739 '60.
(MIRA 14:1)

1. Khar'kovskiy politekhnicheskiy institut im. V.I. Lenina.
(Azo dyes)



21

Carbon disulfide in crude benzene. P. Kashurkin. J. Chem. Ind. (Russia) 6, 963-5(1929).—When crude benzene is rectified, the lowest boiling fractions contain, beside C_6H_6, paraffins, etc., most of the CS_2 of the crude product; however, CS_2 is also found, in lesser quantity, in the other fractions. CS_2 cannot be completely sepd. by repeated distn., as it appears to be in unstable combination with unsatd. hydrocarbons; but fractions contg. 15% CS_2 can be obtained without difficulty, and such fractions can be utilized instead of pure CS_2 for *extermination of noxious insects* in rural economy, as expts. show that they are equal in toxicity to pure CS_2. The crude benzene obtained by distg. coal tar of the Donets region contains 0.27-0.93 CS_2. B. N.

METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

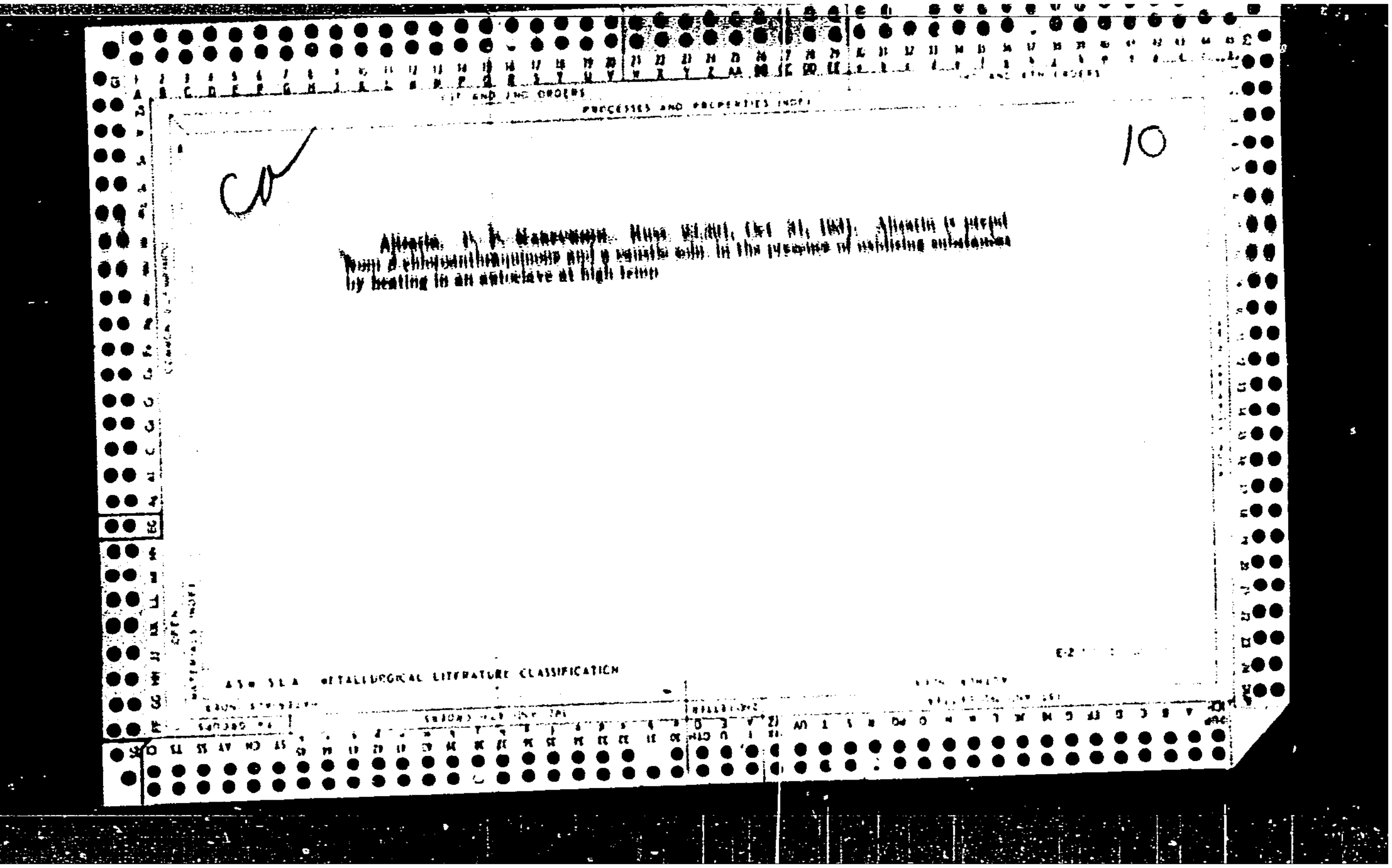
PROCESSES AND PROPERTIES INDEX

Ca

Production of indanthrene colors. P. KARPUKHIN. *J. Chem. Ind.* (Moscow) 6, 351-5(1929).—A review of the chemistry and the present methods of production of indanthrene dyes. CHAS. BLANC

2 3

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

CO

10

Alizarin. N. N. [illegible]. Russ. 61,401, Oct. 31, 1941. Alizarin is prepd. from 2-chloroanthraquinone and a caustic alk. in the presence of oxidizing substances by heating in an autoclave at high temp.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

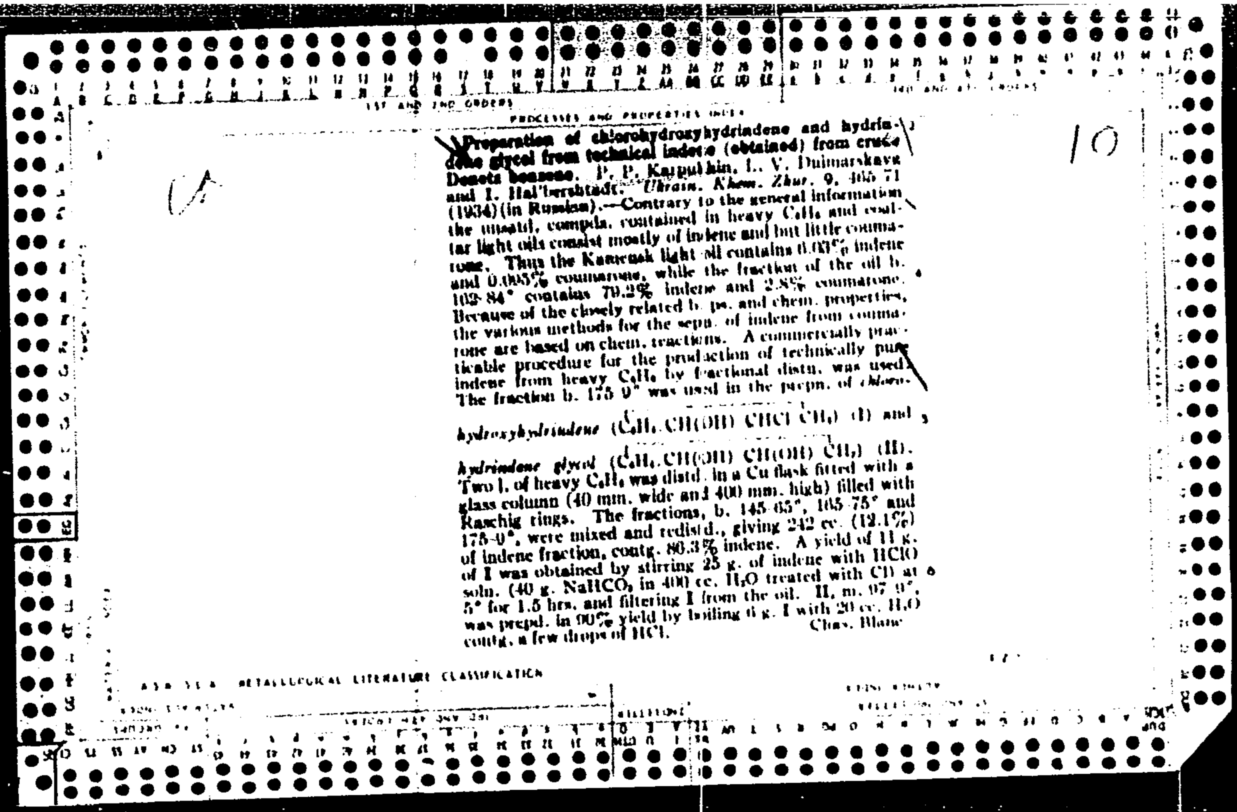
CA

21

Determination of indene in coke-chemical products. P. P. Karpukhin and R. P. Gvirtsman. *Coke & Chem.* (U. S. S. R.) 1934, No. 8, 69-71.—The coal-tar fraction of 163-184° (9 g.) was treated with benzaldehyde (11 g.), then 20 cc. of alc. and 20 cc. of KOH (d. 1.42) were added, the mixt. was shaken, and after 24 hrs. the contents were neutralized with 10% HCl. Then the mixt. was steam-distd. to remove the impurities. The residue was filtered, washed with water, dried, weighed as indene and m. p. was detd. The accuracy was 70% of the total indene.

A. Pestoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

U

10

Preparation of chlorohydroxyhydrindene and hydrindene glycol from technical indene (obtained) from crude Donets benzene. P. P. Karpukhin, L. V. Dulmarskaya and I. Hal'bershtadt. *Ukrain. Khem. Zhur.* 9, 405-71 (1934)(in Russian).—Contrary to the general information the unsatd. compds. contained in heavy C_6H_6 and coal-tar light oils consist mostly of indene and but little coumarone. Thus the Kamensk light oil contains 0.03% indene and 0.005% coumarone, while the fraction of the oil b. 162-84° contains 70.2% indene and 2.8% coumarone. Because of the closely related b. ps. and chem. properties, the various methods for the sepn. of indene from coumarone are based on chem. reactions. A commercially practicable procedure for the production of technically pure indene from heavy C_6H_6 by fractional distn. was used. The fraction b. 175-9° was used in the prepn. of *chlorohydroxyhydrindene* $(C_6H_4.CH(OH).CHCl.CH_2)$ (I) and *hydrindene glycol* $(C_6H_4.CH(OH).CH(OH).CH_2)$ (II). Two l. of heavy C_6H_6 was distd. in a Cu flask fitted with a glass column (40 mm. wide and 400 mm. high) filled with Raschig rings. The fractions, b. 145-65°, 165-75° and 175-9°, were mixed and redistd., giving 242 cc. (12.1%) of indene fraction, contg. 80.3% indene. A yield of 11 g. of I was obtained by stirring 25 g. of indene with HClO soln. (40 g. $NaHCO_3$ in 400 cc. H_2O treated with Cl) at 5° for 1.5 hrs. and filtering I from the oil. II, m. 97-9°, was prepd. in 90% yield by boiling 6 g. I with 20 cc. H_2O contg. a few drops of HCl. Chas. Blanc

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

B-I-10

Materials of the type of "Prodorite" and "Haveg." P. P. Kashchenko (Trans. VI Mendeleev Congr. [1932], 1935, 2, No. 1, 276—277).—An acidproof composition is prepared from sand 80, coal or oil bitumen 15, acid-resisting minerals (clay etc.) 5%, the mixture being heated at 180—200° and moulded. Properties of this and other preps. are described.

Ch. Abs. (p)

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

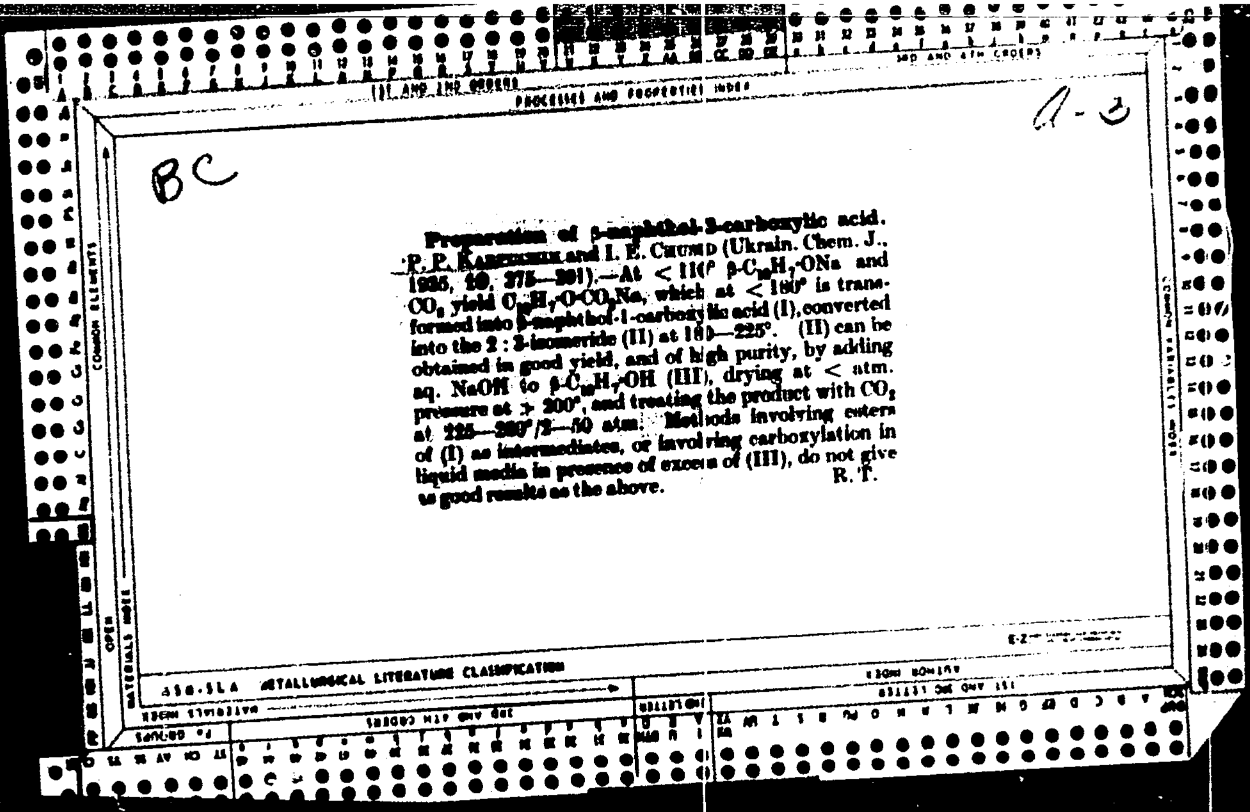
PROCESSES AND PROPERTIES INDEX

CA

10

Synthesis of alizarin from 2-chloroanthraquinone, prepared from chlorobenzene and phthalic anhydride. P. P. Karpukhin. *Anilinokrasochnaya Prom.* 5, 317-21(1935).—Phthalic anhydride and PhCl give *p*-chlorobenzoylbenzoic acid (I) in 94% yield (Friedel-Crafts reaction) together with dichlorophenolphthalein (1.3%) as a by-product. 2-Chloroanthraquinone (II) is obtained in 97.6% yield by heating (I) at 150° with 95% H_2SO_4, and alizarin is obtained in 96% yield by heating II 5, 62% NaOH 21.7, and $NaClO_3$ 1.2 parts at 165° for 24-28 hr.; Cu has no catalytic action in this reaction. B. C. A.

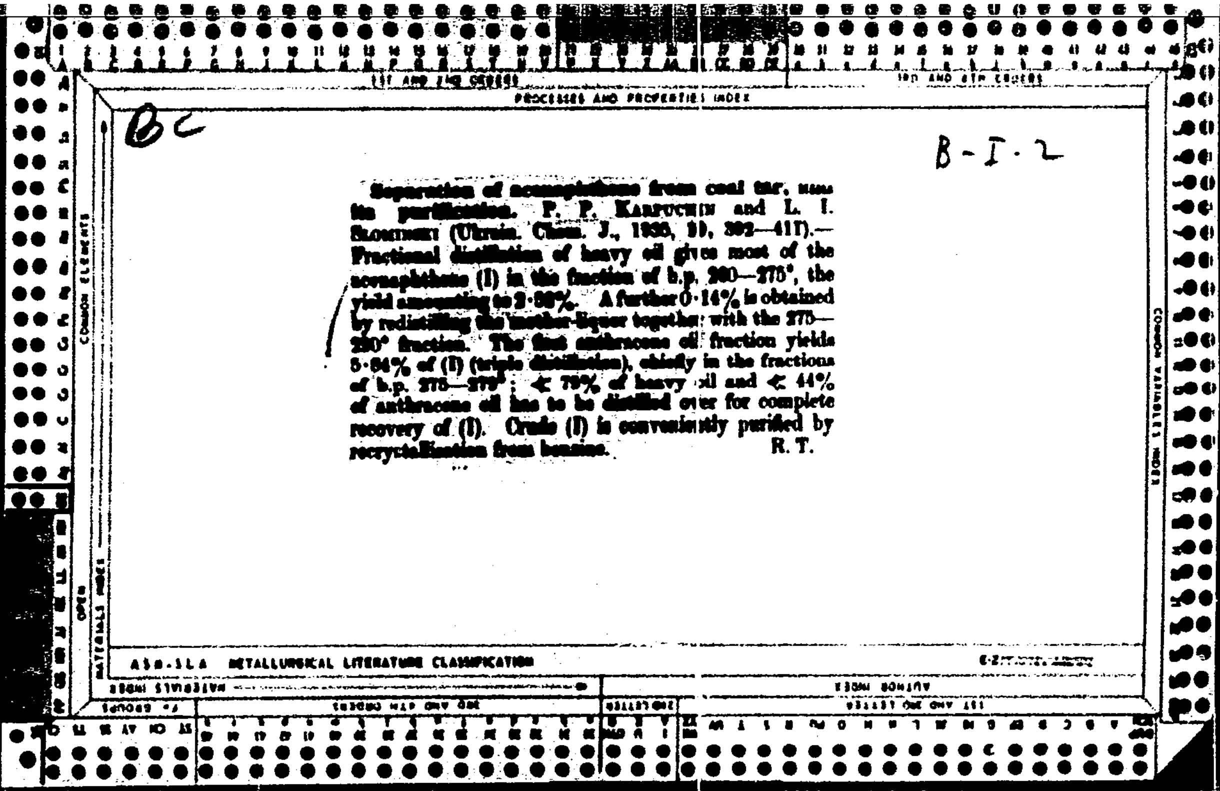
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



BC

a-2

Preparation of β-naphthol-3-carboxylic acid. P. P. Karpukhin and I. E. Chumd (Ukrain. Chem. J., 1935, 10, 375—391).—At < 110° β-$C_{10}H_7$·ONa and CO_2 yield $C_{10}H_7$·O·CO_2Na, which at < 180° is transformed into β-naphthol-1-carboxylic acid (I), converted into the 2 : 3-isomeride (II) at 180—225°. (II) can be obtained in good yield, and of high purity, by adding aq. NaOH to β-$C_{10}H_7$·OH (III), drying at < atm. pressure at > 200°, and treating the product with CO_2 at 225—280°/2—50 atm. Methods involving esters of (I) as intermediates, or involving carboxylation in liquid media in presence of excess of (III), do not give as good results as the above. R. T.



1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

BC

B-I-2

COMMON ELEMENTS

Separation of acenaphthene from coal tar, and its purification. P. P. Karpuchin and L. I. Slominski (Ukrain. Chem. J., 1936, 11, 392—411).—Fractional distillation of heavy oil gives most of the acenaphthene (I) in the fraction of b.p. 260—275°, the yield amounting to 2·30%. A further 0·14% is obtained by redistilling the mother-liquor together with the 275—280° fraction. The first anthracene oil fraction yields 5·64% of (I) (triple distillation), chiefly in the fractions of b.p. 275—279°; ≮ 79% of heavy oil and ≮ 44% of anthracene oil has to be distilled over for complete recovery of (I). Crude (I) is conveniently purified by recrystallisation from benzene. R. T.

COMMON VARIABLES INDEX

OPEN

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

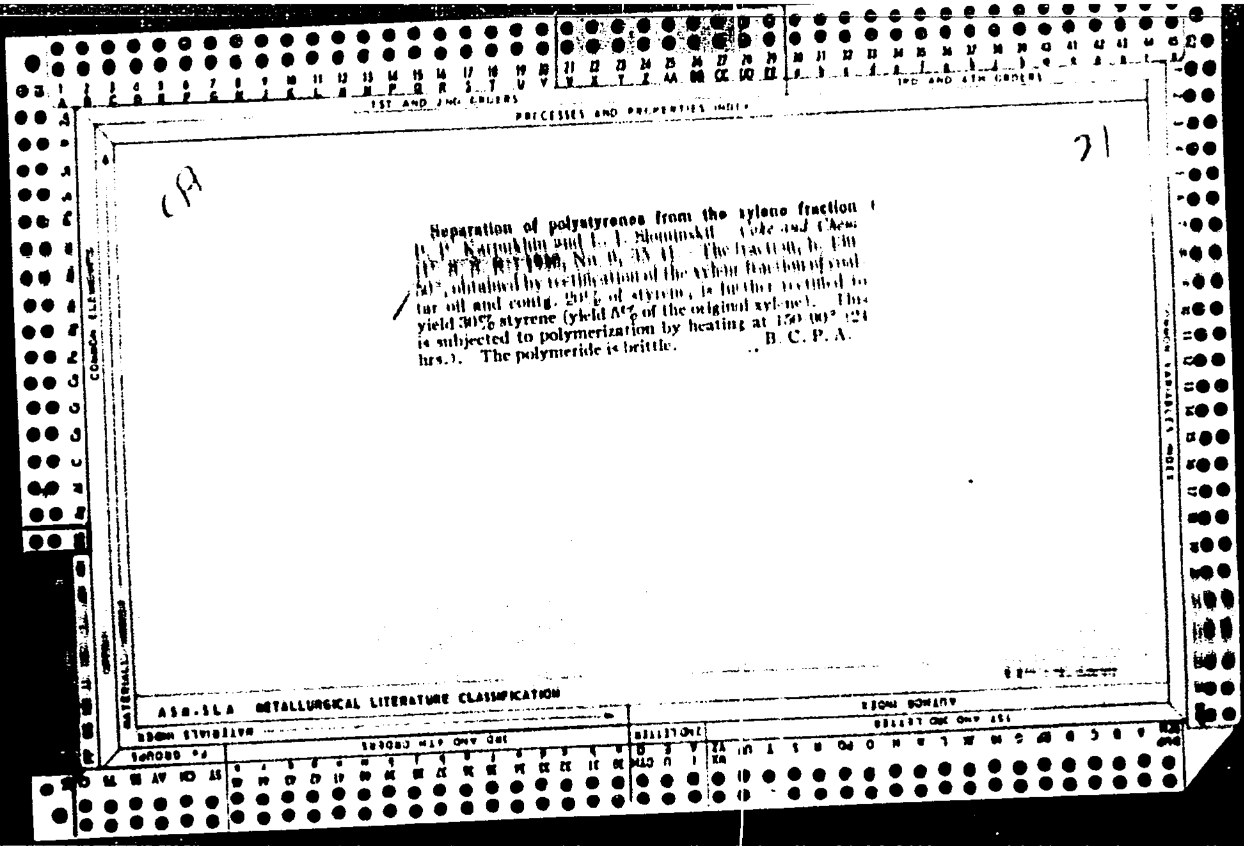
3RD AND 4TH ORDERS

10/

10

Utilization of naphthalic acid in the aniline dye industry. P. P. Karpukhin and K. I. Ratnikova. *Ukrain. Khem. Zhur.* 12, 122-35(in German 136)(1937). Naphthalic anhydride (I) was sulfonated by heating to 120-30° a mixt. of 20 g. I with 150 g. fuming H_2SO_4 (5.5% SO_3) for 9 hrs. and neutralizing with $CaCO_3$. Contrary to Anschütz and Zinkmeister (*Ber.* 34, 3093) yields of 95% were obtained. By fusing Na sulfonaphthalate with KOH the HO compd. was prepd. This was heated at 120-30° with an alc. soln. of NH_3 in a sealed tube for 3 hrs. whereby hydroxynaphthalimide (II) was obtained; yield, 85%. Heating II with a soln. of KOH gives perylenetetracarboxylic acid diimide (III) (yield, 60%); it is stable toward light, unstable toward acids, changes its green color to blue at *p*H 3. Treatment of III with methylating agents gives the black dye; the Bz deriv. is blue-black; nitration of III produces shades from blue to purple. J. G. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



(R

21

Separation of polystyrenes from the xylene fraction [illegible] P. P. Karpukhin and L. I. Shuminskii. (Coke and Chem. U.S.S.R., 1936, No. 8, 35 [illegible]).—The fraction, b.p. [illegible] 150°, obtained by rectification of the xylene fraction of coal tar oil and contg. 20% of styrene, is further rectified to yield 30% styrene (yield 8% of the original xylene). This is subjected to polymerization by heating at 150–160° (24 hrs.). The polymeride is brittle. B. C. P. A.

PROCESSES AND PROPERTIES INDEX

BC

B-I-2

Isolation of pyrene from coal tar, and its purification. P. P. Karpuchin and L. I. Slominskii (Koks i Chim., 1938, No. 15, 41—44).—Pitch of softening point 64—74° is distilled to yield 1·5% of oil, separated into a fluoranthrene (I) fraction, b.p. 252—269°, and a pyrene (II) fraction, b.p. 272—284°. (I) and (II) crystallise from these fractions, after diluting with ligroin. Crude (II) is recryst. from EtOH, to yield a product of m.p. 115—117°, suitable for prep. of $C_{16}H_6(CO_2H)_4$ (yield 0·06% of original pitch).

R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

BC

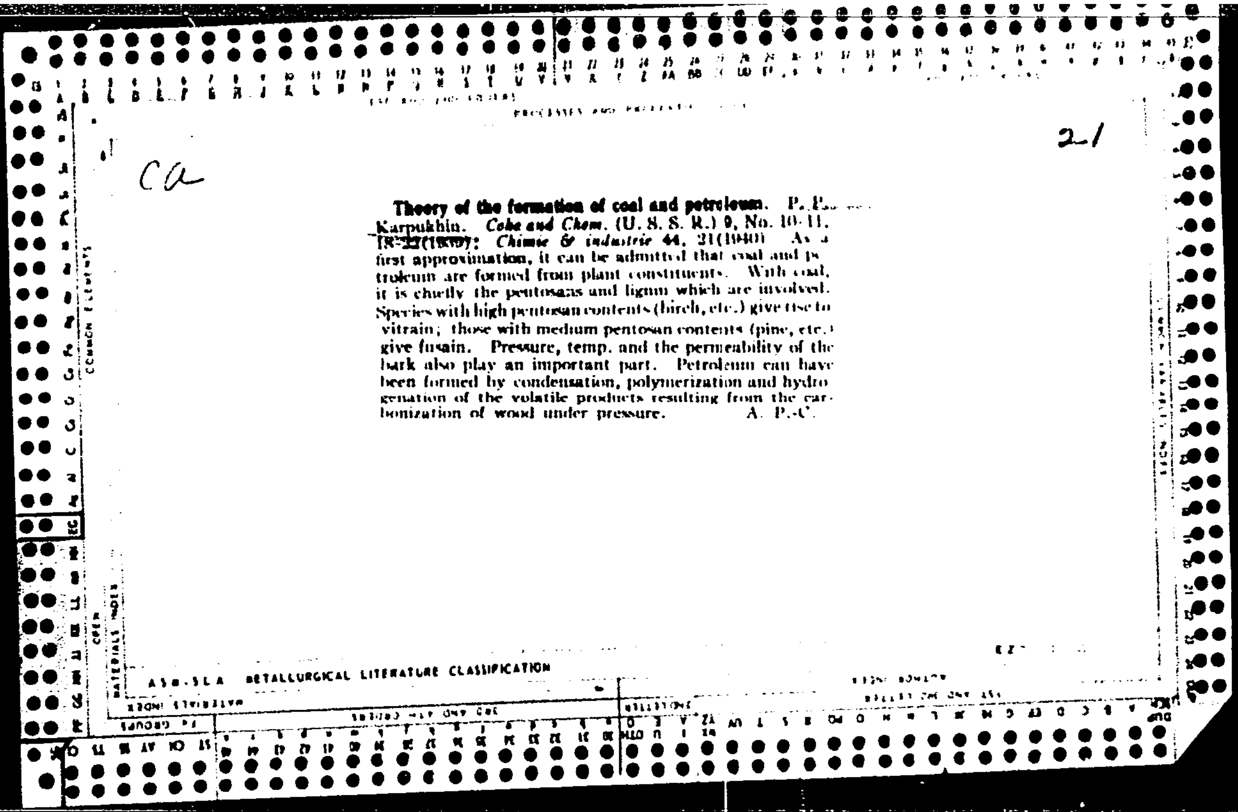
B-I-2

Isolation and purification of fluorene from coal tar. P. P. Karpukhin and P. I. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] to yield 97·5% of pure fluorene (I): the fraction of b.p. [illegible]—[illegible]° similarly gives 53% of (I). That of b.p. 270—300° consists largely of $(C_6H_4)_2O$ from which (I) is only very difficultly separable.

R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX



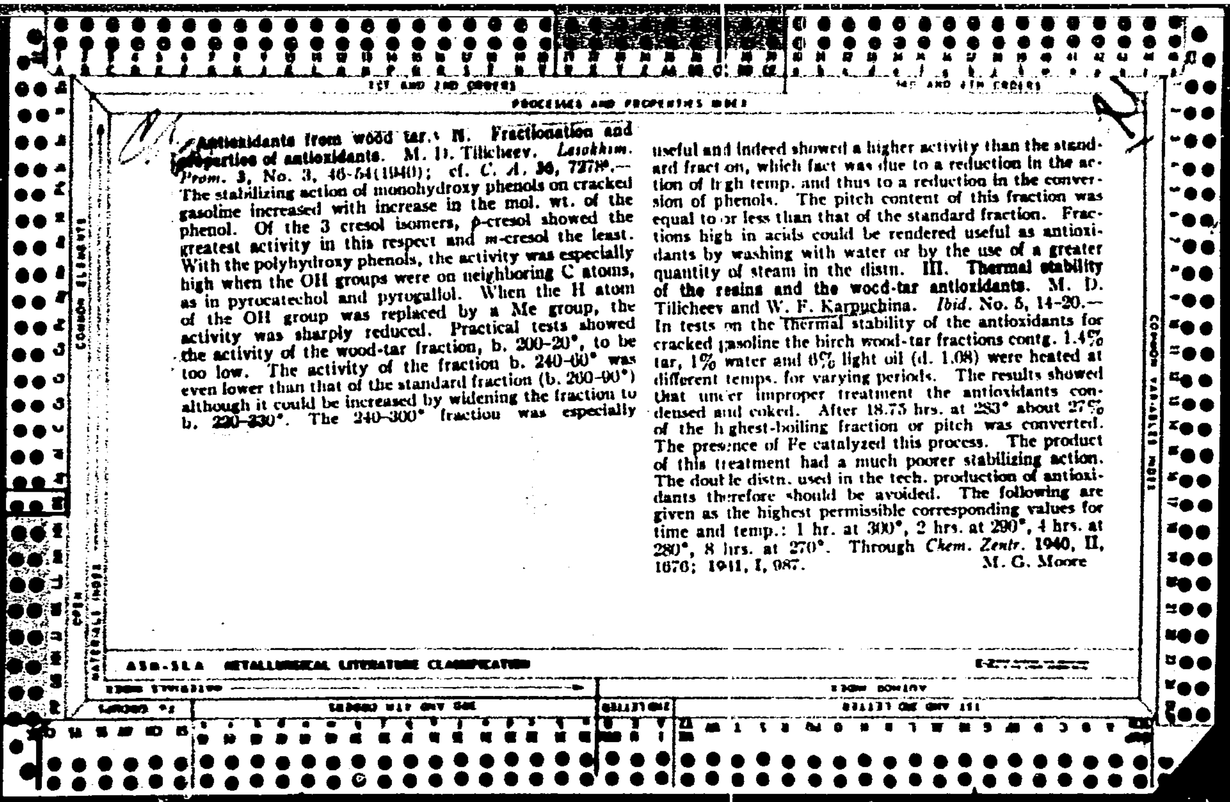
PROCESSES AND PROPERTIES INDEX

Ca

21

Theory of the formation of coal and petroleum. P. P. Karpukhin. *Coke and Chem.* (U. S. S. R.) 9, No. 10-11, ~~18-22(1940)~~; *Chimie & industrie* 44, 21(1940). As a first approximation, it can be admitted that coal and petroleum are formed from plant constituents. With coal, it is chiefly the pentosans and lignin which are involved. Species with high pentosan contents (birch, etc.) give rise to vitrain; those with medium pentosan contents (pine, etc.) give fusain. Pressure, temp. and the permeability of the bark also play an important part. Petroleum can have been formed by condensation, polymerization and hydrogenation of the volatile products resulting from the carbonization of wood under pressure. A. P.-C.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Antioxidants from wood tar. II. Fractionation and properties of antioxidants. M. D. Tilicheev. *Lesokhim. Prom.* 3, No. 3, 46-54(1940); cf. *C. A.* 36, 7278^{9}.—The stabilizing action of monohydroxy phenols on cracked gasoline increased with increase in the mol. wt. of the phenol. Of the 3 cresol isomers, *p*-cresol showed the greatest activity in this respect and *m*-cresol the least. With the polyhydroxy phenols, the activity was especially high when the OH groups were on neighboring C atoms, as in pyrocatechol and pyrogallol. When the H atom of the OH group was replaced by a Me group, the activity was sharply reduced. Practical tests showed the activity of the wood-tar fraction, b. 200-20°, to be too low. The activity of the fraction b. 240-60° was even lower than that of the standard fraction (b. 200-90°) although it could be increased by widening the fraction to b. 220-230°. The 240-300° fraction was especially useful and indeed showed a higher activity than the standard fraction, which fact was due to a reduction in the action of high temp. and thus to a reduction in the conversion of phenols. The pitch content of this fraction was equal to or less than that of the standard fraction. Fractions high in acids could be rendered useful as antioxidants by washing with water or by the use of a greater quantity of steam in the distn. **III. Thermal stability of the resins and the wood-tar antioxidants.** M. D. Tilicheev and W. F. Karpuchina. *Ibid.* No. 5, 14-20.—In tests on the thermal stability of the antioxidants for cracked gasoline the birch wood-tar fractions contg. 1.4% tar, 1% water and 6% light oil (d. 1.08) were heated at different temps. for varying periods. The results showed that under improper treatment the antioxidants condensed and coked. After 18.75 hrs. at 283° about 27% of the highest-boiling fraction or pitch was converted. The presence of Fe catalyzed this process. The product of this treatment had a much poorer stabilizing action. The double distn. used in the tech. production of antioxidants therefore should be avoided. The following are given as the highest permissible corresponding values for time and temp.: 1 hr. at 300°, 2 hrs. at 290°, 4 hrs. at 280°, 8 hrs. at 270°. Through *Chem. Zentr.* 1940, II, 1676; 1941, I, 987.

M. G. Moore

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

ca

21

Method for determining pyrene. P. P. Karpukhin and R. I. Arenkova. *Coke and Chem.* (U. S. S. R.) 11, No. 3, 37-8(1941); *Chem. Zentr.* 1943, I, 1083.—Dissolve 1 g. of the sample in 70 ml. of $PhNO_2$ and add 1.24 ml. of Br_2; this is a 25% excess over the quantity to form the tetrabromo deriv. which is characterized by its insoly. Heat the reaction mixt. slowly to 180° during 15-20 min. and keep at this temp. for another 15 min. Cool, filter, wash the crystals with 3-5 ml. of benzene, dry at 120° and weigh. Correct with +0.83% to allow for the soly. of the tetrabromo deriv. The detn. requires 2 hrs. but if considerable chrysene is present, more washing is required.

W. T. H.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

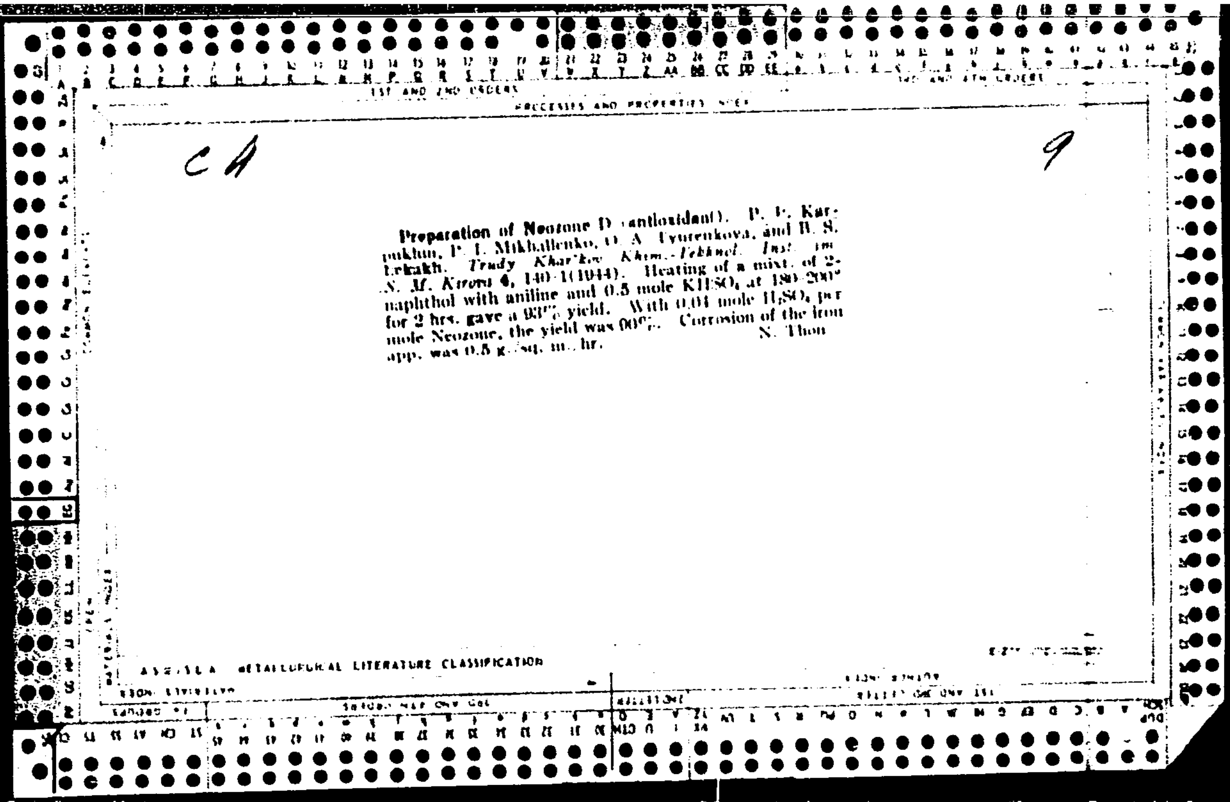
3RD AND 4TH ORDERS

CA

22

Petroleum as source of raw materials for organic synthesis. P. P. Karpukhin, P. I. Mikhailenko, G. K. Goncharenko, O. A. Tyurenkova, and D. E. Kuritskaya. *Trudy Khar'kov. Khim.-Tekhnol. Inst. im. S. M. Kirova* No. 4, 81-7(1944)(in Russian).—The distribution of aromatic compds. in narrow fractions of Fergansk gasoline (60-153°) was detd. The aromatic compds. are C_6H_6 0.588, PhMe 2.189, $C_6H_4Me_2$ and PhEt 4.825%. By nitration, about 2% PhMe and about 3% $C_6H_4Me_2$ can be extd. from the corresponding fractions. Attempts to nitrate the unfractionated gasoline were unsuccessful. The heptane and the octane fractions are 9 and 5%, resp. N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

9

Preparation of Neozone D (antioxidant). P. P. Karpukhin, P. I. Mikhailenko, O. A. Tyurenkova, and B. S. Tekakh. *Trudy Khar'kov. Khim.-Tekhnol. Inst. im. S. M. Kirova* **4**, 140-1(1944). Heating of a mixt. of 2-naphthol with aniline and 0.5 mole $KHSO_4$ at 180-200° for 2 hrs. gave a 93% yield. With 0.04 mole H_2SO_4 per mole Neozone, the yield was 90%. Corrosion of the iron app. was 0.5 g./sq. m./hr. S. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

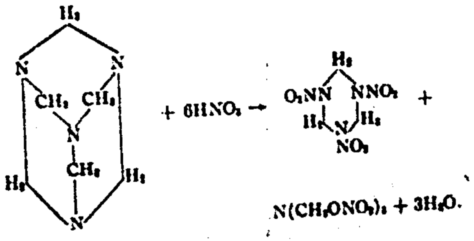
PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CA

'0

Rationalization of the production of hexogen. P. P.
Karpukhin and V. N. Chetyrkin. *Trudy Khar'kov.*
Khim.-Tekhnol. Inst. im. S. M. Kirova 4, 143-5(1944).—
Short note. In current practice, urotropine is treated
with a 10-11 fold amt. of HNO_3 of d. 1.52 and poured into
4-5 vols. of H_2O, resulting in a HNO_3 too dil. for recovery.
The reaction can, however, be carried out in HNO_3 as
concd. as 50-55%, provided the mass is cooled to 0°. At
a concn. below 50% HNO_3, 36.5 g. HNO_3 out of 60 g.
taken per 5 g. urotropine remains in the mass; this
corresponds to the equation



$N(CH_2ONO_2)_3 + 3H_2O$.

At a concn. over 50% HNO_3, only 27.5 g. HNO_3 remains
out of 60 g.; this is due to sapon. of $N(CH_2ONO_2)_3$ and
immediate oxidation of the HCHO evolved. The reaction
at higher concns. of HNO_3 proceeds according to $C_6H_{12}N_4$ +
$10HNO_3 \rightarrow C_3H_6N_6O_6 + 3CO_2 + 6HNO_3 + 3H_2O$ +
NH_4NO_3, i.e. 10 mols. HNO_3 are consumed instead of 6
at a lower concn. of HNO_3. It is possible to reclaim about
55% of the HNO_3 and up to 80% if the N oxides are also
N. Thon
collected.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

USSR/Chemistry - Pyrene Mar 1948
Chemistry - Coal Tar

"The Problem of the Amount of Pyrene and Other High-Boiling Compounds in Coal Tar, Pitch, and Pitch Distillates," P. P. Karpukhin, O. Ya. Tsypkina, 5 pp

"Zhur Prik Khim" Vol XXI, No 3

PA 70T24

Determined pyrene content by the authors' method. Dissolved about 1 gm of the fraction in nitrobenzole and added 1.3 cc bromine. Heated solution to 150° for 20 minutes. Then calculated quantity of pyrene in the fraction from the weight of tetrabromopyrene formed. Estimated amines by titration with 0.1 N solution of sodium nitrate, and anthracene by

[redacted] 70T24

USSR/Chemistry - Pyrene (Contd) Mar 1948

Postovskiy's and Khmelevskiy's method. Extracted chrysene by treating the fraction with acetic acid, and recrystallizing the precipitate from ethyl alcohol Submitted 30 Jun 1947.

KARPUKHIN, P. P.

[redacted] 70T24

KARPUKHIN, P. P.

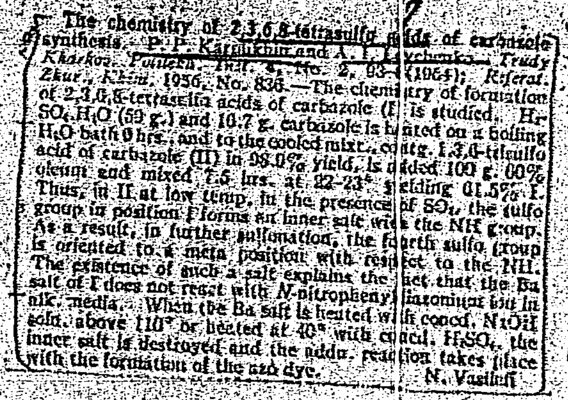
23304 Vydeleniye Fluorantena is Fraktsii Kamennougol'noy Smoly i Ego Ochistka. Trudy Khar'k. Khim.-Tekhnol. In-ta im. Kirova, vyp. 7, 1949, c. 149-53.

SO: LETOPIS'NO. 31, 1949

7

3

4e4j



The chemistry of 2,3,6,8-tetrasulfo acids of carbazole synthesis. P. P. Karpukhin and A. I. L[illegible]ychenko. Trudy Khar'kov. Politekh. Inst. 4, No. 2, 93-[illegible] (1954); Referat. Zhur., Khim. 1956, No. 836.—The chemistry of formation of 2,3,6,8-tetrasulfo acids of carbazole (I) is studied. $H_2SO_4.H_2O$ (59 g.) and 10.7 g. carbazole is heated on a boiling H_2O bath 6 hrs., and to the cooled mixt. contg. 1,3,6-trisulfo acid of carbazole (II) in 98.0% yield, is added 100 g. 60% oleum and mixed 7.5 hrs. at 22-23°, yielding 61.5% I. Thus, in II at low temp. in the presence of SO_3, the sulfo group in position 1 forms an inner salt with the NH group. As a result, in further sulfonation, the fourth sulfo group is oriented to a meta position with respect to the NH. The existence of such a salt explains the fact that the Ba salt of I does not react with *N*-nitrophenyldiazonium but in alk. media. When the Ba salt is heated with concd. NaOH soln. above 110° or heated at 40° with concd. H_2SO_4, the inner salt is destroyed and the addn. reaction takes place with the formation of the azo dye. N. Vasiliev

KARPUKHIN, P.P.

2

Oxidizing method of dyeing wool-cellulose blends. P. P. Karpukhin and A. I. Levchenko. *Tekstil. Prom.* 17, No. 1, 84-6(1957).—Wool and cellulose blends (I), especially furs, are successfully dyed by impregnating I with aromatic amino or hydroxy compds. and subsequent oxidation. Specifically, dyeing of I, wool (II) and cellulose (III) with aniline black (IV) was studied. By presoaking II in NaOH (3.2 g. per 100 g. II), the amt. of IV used is reduced from 20-8% to 7.5-10.0%, calcd. on the wt. of II. For dyeing I black, only 8% II is used if 1% p-phenylenediamine is added, the latter probably speeding up the oxidation of IV. (cf. Green and Johnson, *C.A.* 8, 898). Elisabeth Barabash

KARPUKHIN, P.P.; LEVCHENKO, A.I.

Simultaneous preparation of 9-vinylfluorene and acetate salts of potassium or sodium. Ukr. khim. zhur. 24 no.4:544-548 '58.
(MIRA 11:10)

1. Khar'kovskiy politekhnicheskiy institut im. V.I. Lenina.
(Alkali metal acetates) (Fluorene)

PLAKIDIN, V.L.; YAKOBI, V.A.; POKHILA, S.Ye.; KARPUKHIN, P.P.

Catalytic oxidation of 2,2-dibenzanthronyl by an ozone-oxygen mixture. Kin.i kat. 3 no.2:292-295 Mr-Ap '62. (MIRA 15:11)

1. Rubezhanskiy khimicheskiy kombinat i Khar'kovskiy politekhnicheskiy institut.

(Benzanthracene) (Oxidation)

KARPUKHIN, P.P.; KOROTENKO, T.A.

Active dyes based on epichlorohydrin. Izv.vys.uch.zav.; khim.i khim.tekh. 5 no.4:636-641 '62. (MIRA 15:12)

1. Khar'kovskiy politekhnicheskiy institut imeni Lenina, kafedra tekhnologii krasiteley i promezhutochnykh produktov.
(Dyes and dyeing) (Epichlorohydrin)

KARPUKHIN, P.P.; LEVCHENKO, A.I.; DUDKO, Ye.V.

Vinylation of acenaphthene and anthracene by acetylene. Zhur. prikl. khim. 34 no.5:1117-1121 My '61. (MIRA 16:8)

(Acenaphthene) (Acetylene)
(Vinyl polymers)

YAKOBI, V.A.; PLAKIDIN, V.L.; POKHILA, S.Ye.; KARPUKHIN, P.P.

Catalytic oxidation with an ozone-oxygen mixture. Part 1: Oxidation of 2,2'-dibenzanthronyl. Zhur.ob.khim. 33 no.10: 3369-3373 O '63. (MIRA 16:11)

KARPUKHIN, Petr Prokhorovich; KOROTENKO, Tamila Aleksandrovna, inzh.; CHEKALIN, M.A., doktor khim. nauk, retsenzent; KOROLEV, A.I., kand. khim. nauk, retsenzent; TSYBA, L.A., inzh., red.izd-va; TERESHCHENKO, V.V., tekhn. red.

[Active dyes] Aktivnye krasiteli. Kiev, Gostekhizdat USSR, 1963. 132 p. (MIRA 17:1)

1. Chlen-korrespondent AN Ukr.SSR (for Karpukhin).

KARPUKHIN, P.P.; NIKITENKO, A.G.

Thiophene recovery from benzene fractions by the sulfonation method with subsequent hydrolysis. Koks i khim. no.10:36-39 '62.
(MIRA 16:9)

1. Khar'kovskiy politekhnicheskiy institut.
(Thiophene) (Coke industry—By-products)

KARPUKHIN, P.P.; TRESHCHILOVA, A.F.

Preparation of 1-acetoxy-1,1-dicyanoethane. Zhur. prikl. khim. 36 no.11:2533-2538 N '63. (MIRA 17:1)

1. Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina.

KARPUKHIN, P.P.; NIKITENKO, A.G.

Production of thionaphthene. Koks i khim. no.2:36-39 '64.
(MIRA 17:4)

1. Khar'kovskiy politekhnicheskiy institut.

KARPUKHIN, P.P.; LEVCHENKO, O.I.

Production of 2-hydroxycarbazole. Khim. prom. [Ukr.] no.1: 18-20 Ja-Mr'63 (MIRA 17:7)

1. Khar'kovskiy politekhnicheskiy institut.

ACCESSION NR: AT4010619 S/3051/63/000/000/0354/0358

AUTHOR: Yakobi, V. A.; Plakidin, V. L.; Karpukhin, P. P.

TITLE: Catalytic oxidation of aromatic compounds by an ozone-oxygen mixture

SOURCE: Kataliticheskiye reaktsii v zhidkoy faze. Trudy* Vsesoyuznoy konferentsii. Alma-Ata, 1963, 354-358

TOPIC TAGS: catalyst, catalytic oxidation, aromatic hydrocarbon, cobalt, oxygen, ozone, oxidation, cobalt oxidation catalyst

ABSTRACT: The author discusses the influence of the concentration of cobalt ions on the oxidation of 2-methyl-anthraquinone by an ozone-oxygen mixture using cobalt acetate as a catalyst with cobalt concentrations of 0.02, 0.16, and 0.28 gram-atoms/liter, yields of 17.6, 64, and 80%, respectively, of anthraquinone-2-carboxylic acid were obtained. A temperature rise above 85C reduced the yield. An earlier assumption that ozone reacts with the catalyst in the first stage of the process was confirmed. This confirmation permitted a stepwise oxidation of aromatic compounds without affecting the C-C bond of the ring. The catalyst widened the possible use of an ozone-oxygen mixture for the preparation of hydrocarbon derivatives containing oxygen. "V. G. Zhdanova and S. Ye. Pokhila took part in the experimental part of the work." Orig. art. has: 1 figure and 2 tables.

Card 1/2

ACCESSION NR: AT4010619

ASSOCIATION: Rubezhanskiy khimkombinat (Rubezhansk Chemical Combine); Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnic Institute)

SUBMITTED: 00 DATE ACQ: 25Jan64 ENCL: 00

SUB CODE: GC NO REF SOV: 011 OTHER: 003

Card 2/2

POSTOYEVA, M.Ye.; URAZOVSKIY, S.S. [deceased]; KARPUKHIN, P.P.

Effect of ultraviolet rays on some properties of polyarcylonitrile fibers and films. Khim. volok. no.4:66-68 '65. (MIRA 18:8)

1. Khar'kovskiy politekhnicheskiy institut.

KOSTIN, N.; KARPUKHIN, S.

Valuable initiative. Den. i kred. 19 no.11:40-43 N '61.
(MIRA 14:12)

(Kursk Province—Collective farms—Accounting)
(Kursk Province—Banks and banking)

ZIMIN, P.A., inzhener; VERZHBITSKIY, K.I., inzhener; KARPUKHIN, S.S., inzhener.

Equipment for making and mounting brick blocks. Biul.stroi.tekh. 13 no.5:13-16 My '56. (MLRA 9:8)

1. Nauchno-issledovatel'skiy institut po stroitel'stvu.
(Bricks) (Biulding blocks)

KARPUKHIN, S.S.

Universal grab for assembling large blocks. [Suggested by S.S.Karpukhin]
Rats. i izobr. predl. v stroi. no.151:24-28 '56. (MLRA 10:3)
(Buildign blocks) (Hoisting machinery)

KARPUKHIN, S.S.

KARPUKHIN, S.S.; ZIMIN, P.A.

An all-purpose grip for the lifting and installation of large blocks. Mekh.trud.rab. 11 no.8:36-37 Ag '57. (MIRA 10:11)
(Hoisting machinery) (Building blocks)

KARPUKHIN, S.S.

PRIMAKOV, Yu.V., inzh.; KARPUKHIN, S.S., inzh.

Bunched wire reinforcement for prestressed reinforced concrete components with small-sized tubes. Biul.stroi.tekh. 14 no.6:17-19 Je '57. (MIRA 10:11)

1. Nauchno-issledovatel'skiy institut po stroitel'stvu.
(Prestressed concrete)

NOSENKO, N.Ye.; KARPUKHIN, S.S.

Assembling and using the SM-535 stand. Nov. tekh. i prerd. op. v stroi. 20 no.10:4-8 O '58. (MIRA 11:10)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Nosenko).

(Prestressed concrete)

KARPUKHIN, V., inzhener.

Roasting in the boiling stage. Tekh.mol.23 [i.e.24] no.7:15 Jl '56. (MIRA 9:9)

(Ore dressing) (Sulfides--Metallurgy)

KARPUKHIN, V.

Conveyer belts with flexible rollers. (From foreign journals).
TSvet. met. 29 no.8:93-95 Ag '56. (MLRA 9:10)

(Conveying machinery) (Bearings (Machinery))