Kazarinova, M.I.

120-4-4/35

AUTHORS: Gorbachev, V.M. and Kazarinova, M.I.

TITLE: Detection of Disintegration Fragments and Charged Particles by Thin Scintillation Films. (Registratsiya oskolkov deleniya i tyazhelykh zaryazhennykh chastits tonkimi stsintillirúyushchimi plenkami)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.4, pp. 20 - 24 (USSR).

ABSTRACT: The aim of the present work was to design a fast detector of disintegration fragments based on an application of thin scintillation films. The following scintillators were used: terphenyl anthracene, 2.5 diphenyloxazol in various concentrations in polystyrene. The obtained solution was transferred by means of a pipette on to a glass surface and was then dried at room temperature for a number of hours. After the drying process, the film was easily detachable from the glass. To accelerate the drying process, the glass can be warmed up to 50 - 60 °C. A layer of U^{235} (1 mg/cm^2) placed in a beam of thermal neutrons was used as the source of disintegration fragments. The layer was placed in a vacuum chamber at a distance of 5 cm from the scintillation film. All the measurements were carried out using a photomultiplier collecting 100% of the

Card1/2 photoelectrons. Pulses from the photomultipler were fed into

24.6500,24.6510

77244
SOV/89-8-2-11/30

AUTHORS: Kazarinova, M. I., Zamyatnin, Yu. S., Gorbachev, V. M.

TITLE: 2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 2, pp 139-141 (USSR)

ABSTRACT: Following recent fission cross-section measurements by fast neutrons, various researchers tried to establish an empirical relation between the relative fission probability $f = \frac{\sigma_f}{\sigma_c}$ and parameter $\frac{Z^2}{A}$. Nevertheless, the functional relation between f and the mass number A (for a fixed atomic number Z) was investigated in some detail only for the case of uranium, and the relation between f and Z was not clear at all, except that f rises quite rapidly with increasing Z. To study closer this latter problem and to get a more precise f(A) relationship, the authors exposed Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} to

Card 1/11

2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

77246
SOV/89-6-2-11/30

2.5 and 14.6 mev neutrons originating from deuterium and tritium targets bombarded by 150-200 kev deuterons. The registration of events took place by means of a fission chamber with electron collection. Isotope content of Th and Am was determined mass-spectrometrically, and that of Pu^{239} in a layer of Pu^{240} by "weighing" it in the flux of thermal neutrons. The content of Am^{241} formed in a Pu^{241} layer resulting from its β disintegration was determined from the known accumulation time. The amount of Th^{230}, Pu^{240}, Am^{241} isotopes in layers under investigation was determined by counting α-particles emitted by those isotopes. The Pu^{240} content in the layer was also determined from the number of spontaneous fissions, and the amount of Pu^{241} by counting α-particles from Am^{241}. The Pu^{241} layer was also "weighed" in the thermal neutron flux, taking 1,025 ± 10 barn for the

Card 2/11

value of the Pu^{241} thermal neutron fission cross section. For Pu^{240} and Pu^{241} various methods used agreed within experimental errors. Table 1 contains the results obtained together with the half-lives used by the authors during calculations.

Table 1. The characteristics of layers of isotopes studied.

Isotope	Effective weight μg	Half-life, years	Isotopic composition
Th^{230}	(1870 ± 40)	$8 \cdot 10^4$ [1]	$(35 \pm 1)\%$ Th^{230}; $(65 \pm 1)\%$ Th^{232}
Pu^{240}	(345 ± 15)	$6{,}6 \cdot 10^3$ [1]; $T_{1/2\,spont.} = 1{,}2 \cdot 10^{11}$ [2]	15% Pu^{239}; 85% Pu^{240}
Pu^{241}	$(50{,}6 \pm 1{,}6)$	$13{,}2$ [3]	12% Am^{241}; 88% Pu^{241}
Am^{241}	(89 ± 2)	$458 \pm 0{,}5$ [3]	100% Am^{241}

2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

77246
SOV/89-8-2-11/30

The 14.6 mev neutron cross section was determined by absolute methods. Neutron flux was obtained counting α-particles from $T(d, n)He^4$ reaction, while the background of scattered neutrons was determined performing measurements at different places between the chamber and the sources. The 2.5 mev measurements could not be made completely exact, because of the small counting rate. Relative measurements utilized twin fission chambers which contained at the same time a material of known fission cross section for neutrons of given energy. Cross section of Th^{230} was taken relative to that of Th^{232}, and those of Pu^{240}, Pu^{241}, and Am^{241} relative to the U^{238} fission cross section. For control purposes Am^{241} was compared to U^{235}. The 2.5 mev cross sections were also compared to those at 14.6 mev by utilizing the relative fission cross sections of materials used in the neutron beam monitors:

2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

77246
SOV/89-8-2-11/30

0.13 and 0.34 barn for Th^{235} and 0.58 and 1.1 barn for U^{238} detectors at the respective energies of 2.5 and 14.6 mev. Cross section values are from papers of Hughes and Schwartz (see reference at end of Abstract). All 2.5 mev values agreed on the limit of errors, and results are given in Table 2.

Table 2. 2.5 and 14.6 mev neutron induced fission cross sections σ_f of isotopes, barn.

Isotopes	2,5 mev		14,6 mev		
	Data from present experiments	Data by other authors	Data from present experiments	Data by other authors	** σ_f
Th^{230}	0,41±0,08	—	0,72±0,15	—	0,90
Pu^{240}	1,6 ±0,3	1,5±0,15 [A]	2,4 ±0,3	2,6 ±0,2* [A]	2,55
Pu^{241}	1,2 ±0,2	—	2,05±0,1	—	2,15
Am^{241}	1,05±0,2	1,35 [1]	2,05±0,15	2,35±0,15 [B]	2,85

Card 5/11

* Fission cross section due to neutrons of 15 mev energy.
** Fission cross sections on the second plateau, computed using Eq. (1).

2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

77246
SOV/89-8-2-11/30

In Table 2, Reference /A/ is: V. G. Nesterov, G. N. Smirenkin, Zh. eksperim. i teor. fiz., 35, 522 (1958); and Reference /B/ is: A. N. Protopopov, Yu. A. Selitskiy, Atomnaya energiya, 6, Nr 1, 67 (1959). The authors paid special attention to possible mistakes in the case of Am^{241}, where the results disagreed with results of other authors, but they did not find any appreciable error. Evaluation of Results. The 2.5 mev neutron results verify the decrease of the fission cross section and the ratio f with the increase of A (for fixed Z). The explanation of this is connected to the decrease of neutron binding energy, and to the related rise in neutron evaporation probability. From this standpoint the practically negligible influence of pairing of the fissionable isotopes on f(A) seems slightly strange, since it affects the binding energy E_B. The authors found also that f is not a single-valued function of Z^2/A since, as seen on Fig. A, each element has a particular f-curve.

Card 6/11

2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

77246
SOV/89-8-2-11/30

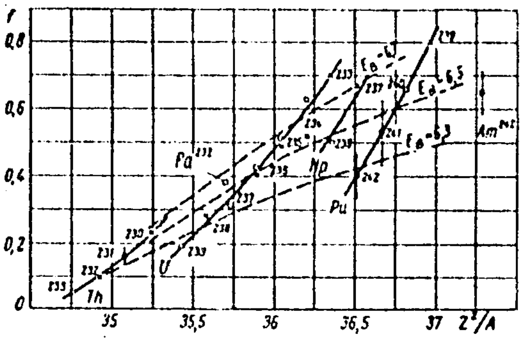

Fig. "A". Relative probability of nuclear fission f versus the parameter Z^2/A. o, neutron-induced fission; x, photofission (points o and x taken from: Yu. S. Zamyatnin, The Physics of Nuclear Fission, Supplement Nr 1 to the periodical Atomnaya energiya; M. Atomizdat, 1957, p 27, corrected by taking into account newly published fission cross-section data); $\overset{\top}{\underset{\bot}{\bullet}}$ are data from the present investigation. Dashed line shows approximate $f(Z^2/A)$ relationships for various values of the binding energy.

Card 7/11

2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

77246
SOV/89-8-2-11/30

Trying to fit all the curves together using Z^n/A, at $n \neq 2$, dependence, it became clear to the authors that fitting curves of different groups of elements would require different exponents of n. To fit Th, Pa, and U, n should be 1.7; to fit U, Np, and Pu, n should be 1.2; to fit Am^{242} with the Pu curve, n = 0.8. The authors note that the weaker dependence of f from Z is apparently connected to the fact that, in addition to the Z^2/A parameter, f is determined also by the probability of neutron evaporation, which again depends on the binding energy of neutrons. If one takes into account that for a given Z^2/A and the same pairing, an increase in Z is connected to a decrease of binding energy (see Table 3) and, consequently, with an increase of evaporation probability, it becomes understandable why one observes reduced relative fission probability of isotopes of elements with larger Z.

2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

77246
SOV/89-8-2-11/30

Table 3. Neutron binding energy in nuclei versus Z for fixed Z^2/A, in mev.

Z^2/A							
35,25		35,5		36,2		36,5	
—	—	Th^{228}	7,0		—	U^{232}	7,1
Th^{230}	6,7	Pa^{233}	6,6	U^{234}	6,7	Np^{237}	6,7
Pa^{235}	6,3	—	—	Np^{239}	6,3	Pu^{242}	6,2
—	—	U^{238}	6,0		—	—	—
U^{240}	5,8	—	—	—	—	—	

It follows that by observing nuclei which have equal values of E_B one can exclude the effect of neutron evaporation and obtain an $f(Z^2/A)$ depending on the fission process only (see Fig. A). The 14.6 mev

2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

77246
SOV/89-8-2-11/30

and S. K. Sokolova supplied the isotopes and prepared the layers; I. A. Tishchenko and G. M. Kukavadze performed the mass-spectrometric analysis; Yu. A. Vasil'yev and E. I. Sirotin performed measurements on the accelerating tube; and M. S. Shvetsov, Yu. A. Barashkov, and E. D. Beregovenko helped take measurements. There is 1 figure; 3 tables, and 8 references, 3 Soviet, 1 U.K., 4 U.S. The U.K. and U.S. references are: J. Huizenga, Phys. Rev., 109, 484 (1958); D. Hughes, R. Schwartz, Neutron Cross Sections, New York, BNL (1958); D. Hall, T. Markin, J. Inorg. and Nucl. Chem., 4, 137 (1957); R. Leachman, Report Nr 2467 presented by U.S.A. at the Second United Nations International Conference for the Peaceful Uses of Atomic Energy (Geneva 1958); M. Studier, J. Huizenega, Phys. Rev., 96, 545 (1954).

SUBMITTED: August 8, 1959

Card 11/11

L 30954-66 EPF(n)-2/EWA(h)/EWT(l)/EWT(m)/ETC(m)-6/EWP(t) IJP(c) WW/JW/JD/JG

ACC NR: AP6013489 SOURCE CODE: UR/0120/66/000/002/0037/0040

AUTHOR: Degtyarev, Yu. G.; Kazarinova, M. I.; Protopopov, V. N.

45
B

ORG: none

TITLE: Fast neutron spectrometer using Si surface-barrier detectors and Li^6F

SOURCE: 14 Pribory i tekhnika eksperimenta, no. 2, 1966, 37-40

TOPIC TAGS: spectrometer, neutron spectrometry, neutron bombardment

ABSTRACT: A semiconductor neutron spectrometer has been developed whose sensing element is a thin film of Li^6F sandwiched between two layers of n-Si. Neutron bombardment of the film yields the splitting reaction $Li^6 + n \rightarrow T + \alpha + Q$, in which the combined energies of the triton T and the α-particle equal the neutron kinetic energy plus the reaction energy Q. A section of the sensor is shown in Fig. 1. Allowing for the loss caused by the gold foil, the authors used a figure of Q = 4.6 Mev for thermal neutrons and 4.7 Mev for those above 3 Mev energies. The preamplified pulses from each counter are summed, giving an output of about $E_n + Q$, and this output is connected via an expander to the spectrum analyzer; with the expander, any desired portion of the energy spectrum can be observed. Amplitude spectra of tritons, α-particles, and neutrons were obtained for bombarding energies up to 3.2 Mev. Detected pulse amplitudes vs neutron energies over the test range showed a linear relationship. The spectrometer design is recommended as being reliable and stable. Orig. art has: 5 figures. [SH]

Card 1/2 UDC: 539.1.074.5

L 30954-66

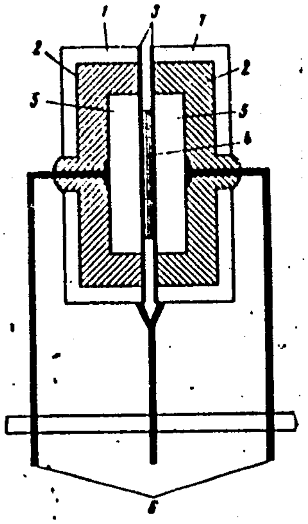

Fig. 1. Detector construction

1 -- Ni case; 2 -- epoxy filler; 3 -- gold foil; 4 -- Li^6F layer; 5 -- n-Si; 6 -- outputs to preamps.

SUB CODE: 20/ SUBM DATE: 19Mar65/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS: 4241

Card 2/2

KAZARINOVA, N. F.

KAZARINOVA, N. F. "The Chemistry of 9-oxy-, 9-aminoaryl Derivatives of Acridine." Min Higher Education USSR. Ural Polytechnic Institute imeni S. M. Kirov. Sverdlovsk, 1956. (Dissertation for Degree of Candidate in Chemical Science)

So: Knizhnaya Letopis', No. 17, 1956.

KAZARINOVA, N.F.

PRIKHOT'KO, A.F

24(7) p 3 PHASE I BOOK EXPLOITATION SOV/1365

L'vov. Universytet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Fizychnyy zbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Gazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Landsberg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanchuk, V.S., Candidate of Physical and Mathematical Sciences, and Glauberman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Card 12/30

POSTOVSKIY, I.Ya.; SHEYNKER, Yu.N.; KAZARINOVA, N.F.

Spectroscopic analysis of 9-oxyarylacridines. Fiz. sbor. no.3: 183-184 '57. (MIRA 11:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S. Ordzhonikidze i Ural'skiy politekhnicheskiy institut im. S.M. Kirova.

(Acridine—Spectra)

AUTHORS: Kazarinova, N. F., Postovskiy, I. Ya. 79-12-29/43

TITLE: On the Tautomery of Acridine Compounds (K tautomerii akridinovykh soyedineniy).
On the Structure of 9 - π - Oxyphenyl) - and 9 - π -Oxystyryl) Acridine (O stroyenii 9 - π - oksifenil) i 9 - π - oksistiril) - akridinov).

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 12, pp. 3325-3331 (USSR).

ABSTRACT: The subject of the present publication is the investigation of the structure of 9 - (π - Oxyphenyl) - and 9 - π - Oxystyryl) acridine. Disregarding the presence of phenolrests in them they are not soluble in alkalies. Both compounds are difficult to solve in concentrated hydrochloric acid and in organic acids and have a high melting point (> 340°), different from 9-phenylacridine, which, though without a hydroxile group, melts already at 184° and can comparatively easily be melted in concentrated hydrochloric acid and organic acids. As regards their characteristics both compounds remind us of 9-oxyacridine (see formulae). Based on the comparison with compounds which, as we know, have a phenol- and quinoid structure, the authors state that both acridines have oxystructure but not oxo- or betaine structure. The authors assume that the cause of the weak phenol- and alkaline characteristics

Card 1/2

On the Tautomery of Acridine Compounds.
On the Structure of 9 - π - Oxyphenyl) - and 9 - (π-Oxystyryl) Acridine. 79-12-29/43

of these compounds is the presence of the strong intermolecular hydrogen compounds. The newly synthetized N-methyl-9-(π-benzoquinone)-acridine is of unstable character,
There are 2 figures, 1 table, and 8 references, 2 of which are Slavic.

ASSOCIATION: Ural Polytechnic Institute (Ural'skiy politekhnicheskiy institut).

SUBMITTED: November 14, 1956.

AVAILABLE: Library of Congress.

1. Acridines - Isomerism

Card 2/2

KURBATOV, D.I.; KAZARINOVA, N.F.

1- (2-thiodiazolylazo) -2-naphthol (p_T =7,3), a new acid-base indicator. Izv. Sib. otd. AN SSSR no.8:94-97 '58. (MIRA 11:10)

1.Ural'skiy filial AN SSSR.
(Indicators and test papers) (Naphthol)

5(2),5(3)

AUTHORS: Kazarinova, N. F., Vasil'yeva, N. L. SOV/75-13-6-12/21

TITLE: Photometric Determination of Germanium With 9-[p-(N-Dimetnyl Amino)] - Phenyl-2,3,7-Trihydroxy-6-Fluorone (Fotometricheskoye opredeleniye germaniya s 9-[p-(N-Dimetilamino] -fenil-2,3,7-trioksi-6-fluoronom)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 6, pp 677-681 (USSR)

ABSTRACT: Among the known organic reagents on germanium, good experience has been made with 9-phenyl-2,3,7-trihydroxy-6-fluorone (Ref 1). By adding traces of germanium to the solution of this reagent in dilute hydrochloric acid, the color of the solution changes from yellow to orange and a raspberry-red precipitation takes place. The formation of this precipitate is an obstacle for the photometric determination of germanium and must be prevented by stabilizers (Refs 2, 3). It is therefore more advisable to alter the properties of the reagent by introducing other substituents, maintaining the sensitivity and specificity of phenyl fluorone and yielding soluble compounds with germanium. For this purpose, the authors synthesized

Card 1/4

Photometric Determination of Germanium With 9-[p-(N-Dimethyl Amino)] - Phenyl-2,3,7-Trihydroxy-6-Fluorone

SOV/75-13-6-12/21

9-[p-(N-dimethyl amino)] - phenyl-2,3,7-trihydroxy-6-fluorone by condensation of p-N-dimethyl amino benzaldehyde with hydroquinone triacetate in the presence of concentrated sulfuric acid. This synthesis is accurately described in the work (in a yield of 52%). The resulting reagent is a red fine crystalline powder playing to green and having a melting point of >300°. It is unsoluble in water as well as in the majority of organic solvents. It easily dissolves in lyes, in mineral acids when heated or in the presence of alcohol. A method was worked out for the photometric determination of germanium with this new reagent (briefly called DAFF). DAFF forms salts with acids and is stable in dilute acids. In concentrated hydrochloric acid a yellow precipitation separates, caused by the formation of a weakly soluble oxonium salt. The stability of the acid solutions increases with temperature in consequence of the increasing solubility of the oxonium salt. In the presence of germanium the color of the hydrochloric solution of DAFF changes from yellow to orange, in which connection a maximum of color intensity occurs only by adding a great excess of reagent. The solutions of the germanium compounds with DAFF

Card 2/4

are stable in dilute hydrochloric acid (1 n) up to a content of 1.2 γ GeO_2 per ml. They represent highly disperse colloids and follow the Lambert - Beer's law up to quantities of 1 γ GeO_2 per ml. An increase in acid concentration causes a decrease in optical density of the solutions. With decreasing temperature the optical density of the solutions increases considerably; these changes caused by temperature fluctuation are, however, wholly reversible. At constant temperature, coloring remains stable for a few hours, the maximum intensity being reached after 0.5 - 1.5 hours. The measurement of the optical densities was carried out by FEK-M photocolorimeter with green light filter. The sensitivity of determination amounts to 0.05 γ GeO_2 in 1 ml of the experimental solution. As and Bi cause no disturbance. Sb (III), Sn (IV), and Mo (VI) react with DAFF in much the same way as germanium; the sensitivity of the reagent to these elements is, however, considerably lower than to germanium. Detailed working instructions for the determination are mentioned in the paper.

Photometric Determination of Germanium With 9-[p-(N-Dimethyl Amino)] - Phenyl-2,3,7-Trihydroxy-6-Fluorone SOV/75-13-6-12/21

The authors thank I. Ya. Postovskiy for his valuable suggestions and advice. There are 3 figures and 4 references, 1 of which is Soviet.

ASSOCIATION: Institut khimii Ural'skogo filiala AN SSSR, Sverdlovsk (Institute of Chemistry of the Ural Branch of the Academy of Sciences, USSR, Sverdlovsk)

SUBMITTED: June 29, 1957

Card 4/4

KAZARINOVA, N.F.; LATOSH, N.I.; POSTOVSKIY, I.Ya.

Investigating the complexons of amino acid derivatives. Izv.Sib. otd.AN SSSR no.2:60-70 '60. (MIRA 13:6)

1. Ural'skiy filial AN SSSR.
(Complexons) (Amino acids)

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S/020/60/132/01/37/064
B011/B126

AUTHORS: Postovskiy, I. Ya., Kazarinova, N. F., Afanas'yeva, G. B., Latosh, N. I.

TITLE: New Esters of Dithiocarbamic Acids

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 1, pp. 141-144

TEXT: In the publications data on the protective effect of antiradon (AET, β-aminoethyl isothiuronium bromide (I)) against ionizing radiation have appeared (Refs. 1, 2). Thus, the authors tried to synthesize compounds with a similar structure, namely, β-aminoethyl dithiocarbamates (II). They have produced new carbamates with a non-substituted amino group (IV, V, VI). They are formed by the reaction of β-chloroethylamine with sodium salts of the relevant dithiocarbamic acids (sodium diethyl dithiocarbamate, -tetramethylene dithiocarbamate, and pentamethylene dithiocarbamate). The reaction products were obtained as easily crystallizable hydrochlorides (Table 1). By using the known reaction between amines and quinones, the authors have synthesized new derivatives of benzo- and naphthoquinone (VII-XIV) (see scheme). These types of compound have recently become recognized as physiologically active, and as new synthetic drugs, amongst

Card 1/2

80063

New Esters of Dithiocarbamic Acids

S/020/60/132/01/37/064
B011/B126

other things as antibacterial and antigrowth mediums. The benzoquinone derivatives (VII-IX) and the naphthoquinone derivatives (X-XIV) contain β-aminoethyl-dithiocarbamate residues, and easily form on the interaction of free amines (IV, V, VI) with quinones in an ethereal solution. They are red, readily crystallizing, not easily soluble substances (Table 2). There are 3 tables and 8 references, 1 of which is Soviet.

ASSOCIATION: Institut khimii Ural'skogo filiala Akademii nauk SSSR (Institute of Chemistry of the Ural Branch of the Academy of Sciences, USSR)

PRESENTED: January 17, 1960, by B. A. Kazanskiy, Academician

SUBMITTED: December 21, 1959

Card 2/2

KAZARINOVA, N.F.; PODGORNAYA, I.V.

Chemistry of complexons. Report No.1: Derivatives of iminodiacetic acids. Trudy Inst.khim. UFAN SSSR no.4:103-110 '60. (MIRA 16:6)
(Complexons) (Acetic acid)

POSTOVSKIY, I.Ya.; KAZARINOVA, N.F.; AFANAS'YEVA, G.B.; LATOSH, N.I.

β-Aminoethyl diethyldithiocarbamate. Zhur. VKHO 5 no.1:113 '60. (MIRA 14:4)

1. Ural'skiy filial AN SSSR, Institut khimii.
(Carbamic acid)

SHEYNKMAN, A.K.; KAZARINOVA, N.F.; BABIN, Ye.P.

N-acylpyridinium salts as pyridilic agents in Fridel-Crafts reactions. Zhur.VKHO 7 no.1:112-113 '62. (MIRA 15:3)

1. Donetskoye otdeleniye instituta organicheskoy khimii AN SSSR.
(Pyridinium compounds) (Friedel-Crafts reactions)

KOLOMOYTSEV, L.R.; KAZARINOVA, N.F.; GEONYA, N.I.; SHEYNKMAN, A.K.

Antibacterial action of some N-substituted pyridine derivatives. Report No.1. Mikrobiol.zhur. 24 no.3:23-28 '62. (MIRA 15:8)

1. Donetskoye otdeleniye Instituta organicheskoy khimii AN UkrSSR.
(PYRIDINE) (BACTERIA, EFFECT OF DRUGS ON)

KAZARINOVA, N.F.; BABIN, Ye.P.; SOLOMKO, K.A.; KOTELENETS, M.I.;
ARTAMONOV, A.A.; SHEYNKMAN, A.K.

Preparation of 4-ethylpyridine. Zhur.prikl.khim. 36 no.3:
649-654 My '63. (MIRA 16:5)
(Pyridine)

SHEYNKMAN, A.K.; RUDENKO, N.Z.; KAZARINOVA, N.F.; LYSENKO, V.B.

Structure of quaternary salts of 4-(p-dimethylaminophenyl)- and 4-(p-dimethylaminostyryl)pyridines. Zhur.ob.khim. 33 no.6:1964-1969 Je '63. (MIRA 16:7)

1. Donetskoye otdeleniye Instituta organicheskoy khimii AN UkrSSR i Donetskiy gosudarstvennyy meditsinskiy institut.
(Pyridinium compounds)

KOST, A. N.; SHEYNKMAN, A. K.; KAZARINOVA, N. F.

Interaction of acetylpyridinium salts with dialkyl anilines.
Zhur. ob. Khim. 34 no.6:2044-2049 Je '64. (MIRA 17:7)

1. Donetskoye otdeleniye Instituta organicheskoy khimii AN UKrSSR i Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

KONNOV, V.A.; KAZARINOVA, R.P.

Temporary disability in skin diseases. Vest. derm. i ven. 38
no.3:71-72 Mr '64. (MIRA 18:4)

1. Ul'yanovskiy oblastnoy kozhno-venerologicheskiy dispanser
(glavnyy vrach V.A.Konnov).

KAZARINOVA, V., kand.arkhitektury; FEDOROV, M., kand.arkhitektury

Composition; basic categories and regularities. Tekh.est. 2 no.12:2-7 D '65.

(MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tekhnicheskoy estetiki Gosudarstvennogo komiteta Soveta Ministrov SSSR.

KAZARINOVA, V. M.

GRIBOV, I.V., inzhener; **KAZARINOVA, V.M.,** kand.tekhn.nauk, red.; SKVORTSOVA, I.P., red. izdatel'stva; STEPANOVA, E.S., tekhn.red.

[Methods of transporting large reinforced concrete panels by means of trucks] Sposoby perevozki krupnorazmernykh zhelezobetonnykh detalei avtomobil'ny, transportom. Pod.red.V.M.Kazarinova. Moskva, Gos.izd-vo lit-ry po stroit.i arkhit., 1957. 34 p. (MIRA 10:12)
(Motor trucks) (Concrete blocks--Transportation)

DROBYSHEVA, D.V., rod.; KAZARINOVA, ~~V.P., red.~~; CHIZHOV, A.A., vedushchiy
red.; GENNAD'YEVA, I.M., tekhn.red.

[Geology and oil potential of the West Siberian Plain.] Geologiia i neftenost' Zapadno-Sibirskoi nizmennosti. Leningrad, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry. Leningradskoe otd-nie. 1958. 273 p. (Leningrad. Vsesoiuznyi neftianoi nauchno-issledovatel'skii geologorazvedochnyi institut. Trudy, no.114)
(MIRA 12:6)

(West Siberian Plain--Petroleum geology)

KUZNETSOVA, N.P.; KAZARINOVA, V.P.

Geophysical prospecting in studying regional geological structure of the West Siberian Plain. Geol. nefti 2 no.4:11-16 Ap '58.
(MIRA 11:5)

1. Novosibirskiy geofizicheskiy trest.
(West Siberian Plain--Prospecting--Geophysical methods)

L 5066-66 EWT(m) DIAAP DM

ACC NR: AP5022639 UR/0089/65/019/002/0179/0180

AUTHOR: Gromov, B. F.; Yermakov, S. M.; Kazarnikova, Ye. Ye.; Solodyankin, M. A.

26

B

TITLE: Angular and energy distribution of gamma radiation on the surface of a volume source

19

SOURCE: Atomnaya energiya, v. 19, no. 2, 1965, 179-180

TOPIC TAGS: nuclear reactor, gamma radiation, nuclear physics apparatus

ABSTRACT: Many layers of material are usually placed in nuclear reactors between the reactive core itself and the outside surface of the shield. Therefore, various attenuation processes must be taken into account in calculations of biological shielding. The authors investigated the angular and energy distribution of gamma radiation on the outside surface of the reactor. The results of their research are given for two cases. In one case, the reactor vessel was protected in water by a boron shield while in the other case no boron shielding was provided. The Monte Carlo method was used for calculations by means of M-20 electronic computing machine. It was assumed, that the gamma rays were generated at the initial energy levels of 2, 3, 4, 5, 6 and 7 Mev.

Card 1/2 UDC: 539.122:539.121.73:539.121.64

0960 444

ACC NR: AP5022639

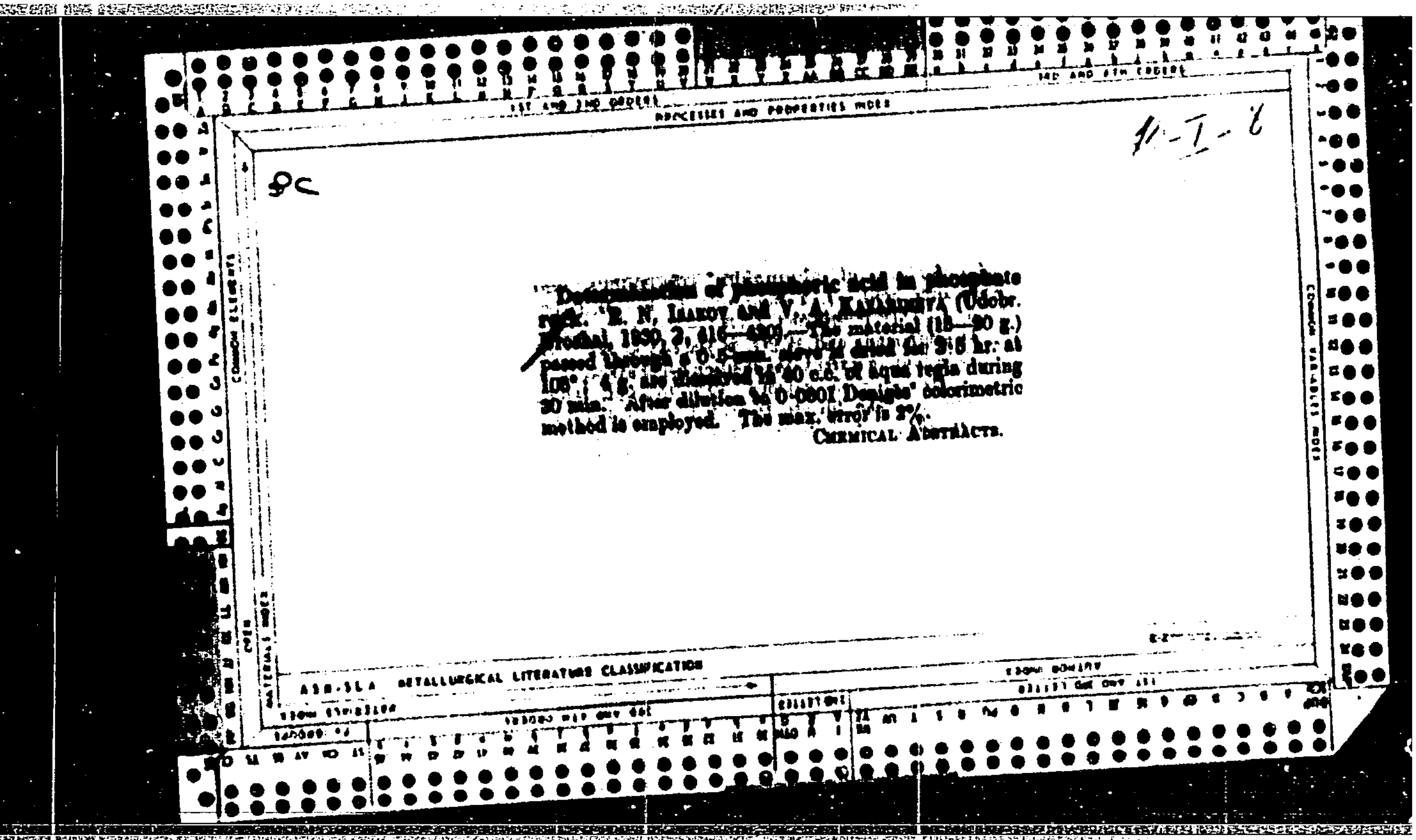
The greatest statistical error after 12000 tests was less than 25% for angular and 20% for energy distributions. The distributions applied to two above mentioned cases and seven energy levels were illustrated by two sets of histograms. The attenuation of 7 Mev gamma radiations in lead shields was also analyzed. The results of this analysis expressed in dose rates were tabulated and graphically illustrated.

ASSOCIATION: None

SUBMITTED: 20Mar65 ENCL: 00 SUB CODE: NP

NO REF SOV: 000 OTHER: 000

Card 2/2



8C

11-I-8

Determination of phosphoric acid in phosphate rock. E. N. Isakov and V. A. Kazarinova (Udobr. Urozhai, 1930, 2, 416—420).—The material (15—20 g.) passed through a 0·5-mm. sieve is dried for 3·5 hr. at 105°; 4 g. are dissolved in 40 c.c. of aqua regia during 30 min. After dilution to 0·0001 Denigès' colorimetric method is employed. The max. error is 2%.

CHEMICAL ABSTRACTS.

CA

Calorimetric analysis of potassium. N. S. Rozanov and V. A. Kazatinova. Kalii (U. S. S. R.) 1933, No. 4, 27-31. A review of methods for detg. K.—The calorimetric method of Lombard was found to be the most practical, being fast and accurate. The procedure is given step by step.

James Sorel

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

W

15

Experiments on the methods of analyzing fluorine in Khibin apatite and superphosphate. S. N. Rozanov and V. A. Kazarinova. *Trans. Sci. Inst. Fertilizers* (Moscow), No. 113, 98-103(1933).—For the detn. of F in apatite and superphosphate in the presence of Cl and colloidal SiO_2 the Penfield method is suitable providing a trap with 10% Ag_2SO_4 in H_2SO_4 soln. is introduced in the absorption train. For samples contg. also org. matter two traps are introduced: one with Ag_2SO_4, the other with a satd. soln. of CrO_3 or $K_2Cr_2O_7$ in H_2SO_4. In the presence of colloidal SiO_2 the yield of F, according to the Penfield method, is low. For detg. F in superphosphate the sample should be dried in a desiccator over $CaCl_2$ or H_2SO_4; it may also be dried in the oven, but the temp. should not exceed 60°.

I. S. Ioffe

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

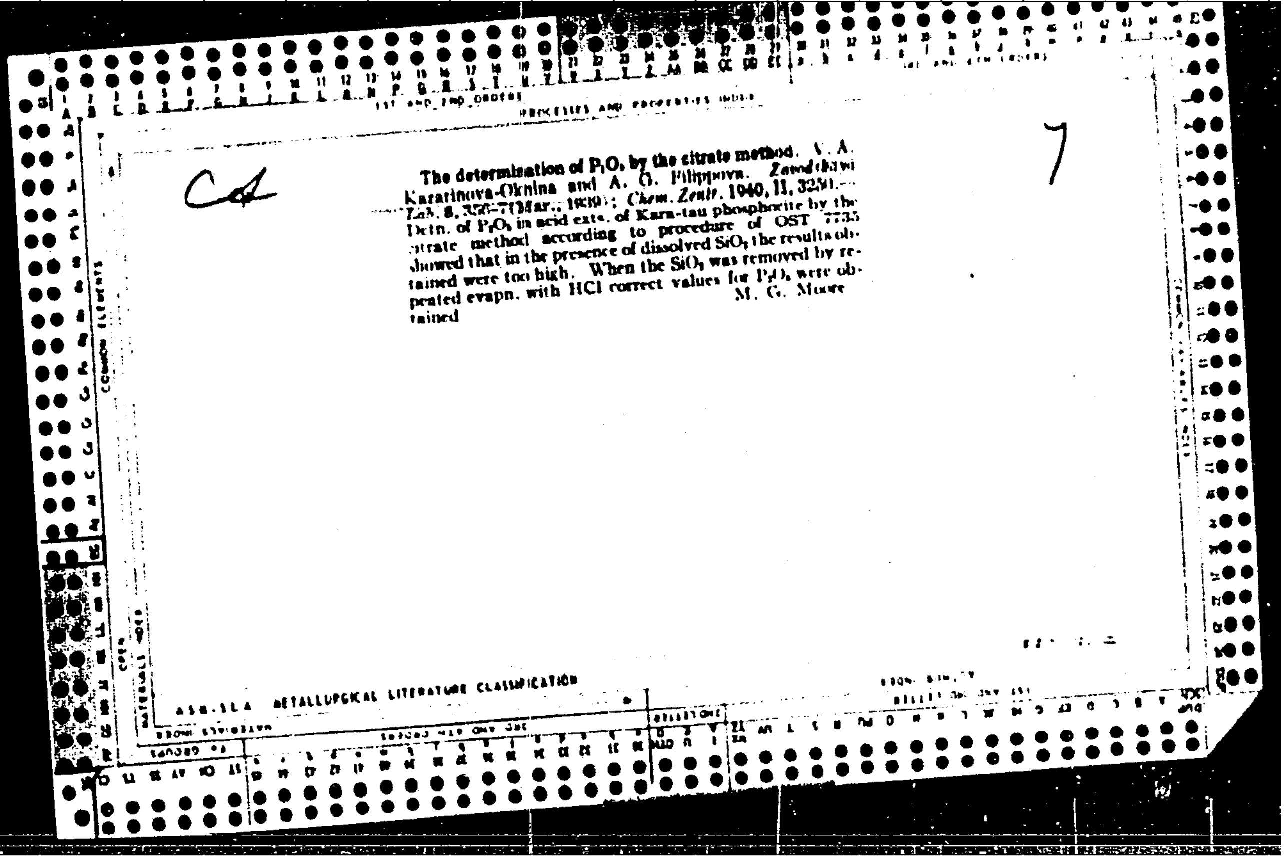
PROCESSES AND PROPERTIES INDEX

Bc

B-I-8

Photocolorimetric determination of ferrous iron in natural phosphates. V. A. Kazarinova-Okunina (Zavod. Lab., 1938, 7, 1108—1109).—An amount of acid phosphorite extract containing 0·02—0·15 mg. of FeO is adjusted to p_H 4·6 with acetate buffer (thymol-blue indicator), and 1 ml. of 0·5% 2 : 2'-dipyridyl is added, followed by H_2O to 100 ml.; the concn. of Fe^{II} is determined photocolorimetrically. Fe^{III}, if present in large excess, interferes; in such cases 1% of NaF, followed by 1% of H_3BO_3, is added. Other substances present in the extracts (Ca, Mg, Al, Na, K, Mn, rare-earth elements, V, $NH_4{}'$, $PO_4{}'''$, SiO_2, $ClO_4{}'$, HF, $BO_3{}'''$, $SO_4{}''$, Cl', citric, tartaric, oxalic, and humic acids) do not interfere. R. T.

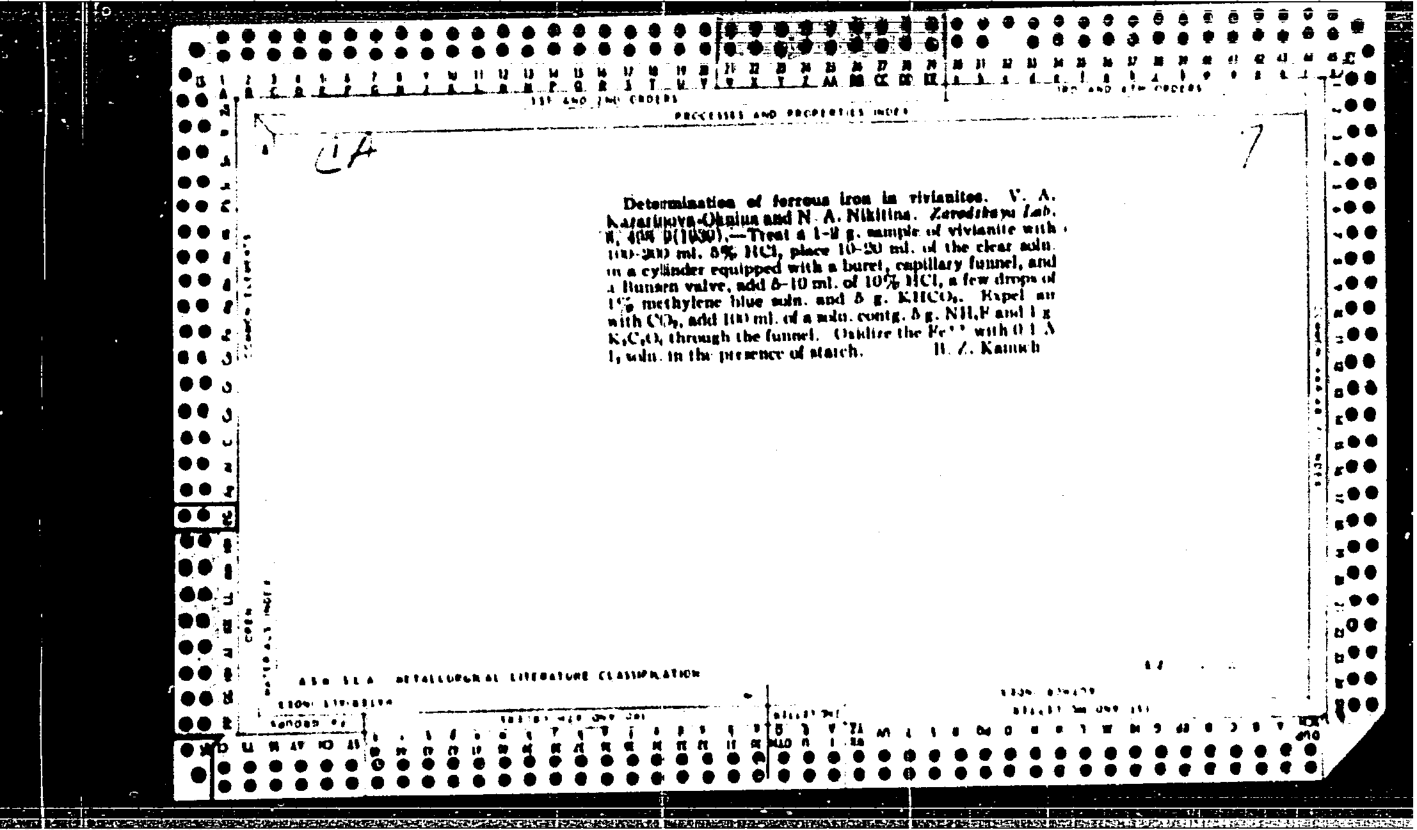
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Ca

7

The determination of P_2O_5 by the citrate method. V. A. Karatinova-Okhina and A. O. Filippova. *Zavodskaya Lab.* 8, 376-7(Mar., 1939); *Chem. Zentr.* 1940, II, 3291.—Detn. of P_2O_5 in acid exts. of Kara-tau phosphorite by the citrate method according to procedure of OST 7735 showed that in the presence of dissolved SiO_2 the results obtained were too high. When the SiO_2 was removed by repeated evapn. with HCl correct values for P_2O_5 were obtained. M. G. Moore



Determination of ferrous iron in vivianites. V. A. Kazarinova-Okunia and N. A. Nikitina. *Zavodskaya Lab.* 8, 408-9(1939).—Treat a 1-2 g. sample of vivianite with 100-200 ml. 5% HCl, place 10-20 ml. of the clear soln. in a cylinder equipped with a buret, capillary funnel, and a Bunsen valve, add 5-10 ml. of 10% HCl, a few drops of 1% methylene blue soln. and 5 g. $KHCO_3$. Expel air with CO_2, add 100 ml. of a soln. contg. 5 g. NH_4F and 1 g. $K_2C_2O_4$ through the funnel. Oxidize the Fe^{++} with 0.1 N I_2 soln. in the presence of starch. B. Z. Kamich

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

8

The organic substance of phosphorites. V. A. Kazarinova. *Trans. Sci. Inst. Fertilizers Insectofungicides* (U.S.S.R.) 1939, No. 146, 111-14; *Khim. Referat. Zhur.* 1940, No. 1, 40.--By treating phosphorites with HCl + HF their org. substance was concd. quantitatively into the insol. ppt. The org. substance was analyzed by the method developed for analyzing peat, coals and shales. The contents of bitumens, humic acids, residual coal and C were obtained for 4 kinds of phosphorites. The contents of C were: in bitumens 51.4-59.6, in humic acids 48.8-71.0 and in residual coal 27.3-43.1%. The contents of H were, resp.: 5.03-5.87, 3.06-5.24 and 4.18-4.71%. Humic acid predominates in the org. substance of the younger phosphorites (Aktyubinskian) and residual coal predominates in the org. substance of the more ancient (Podol'sk) phosphorites. W. R. Henn

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

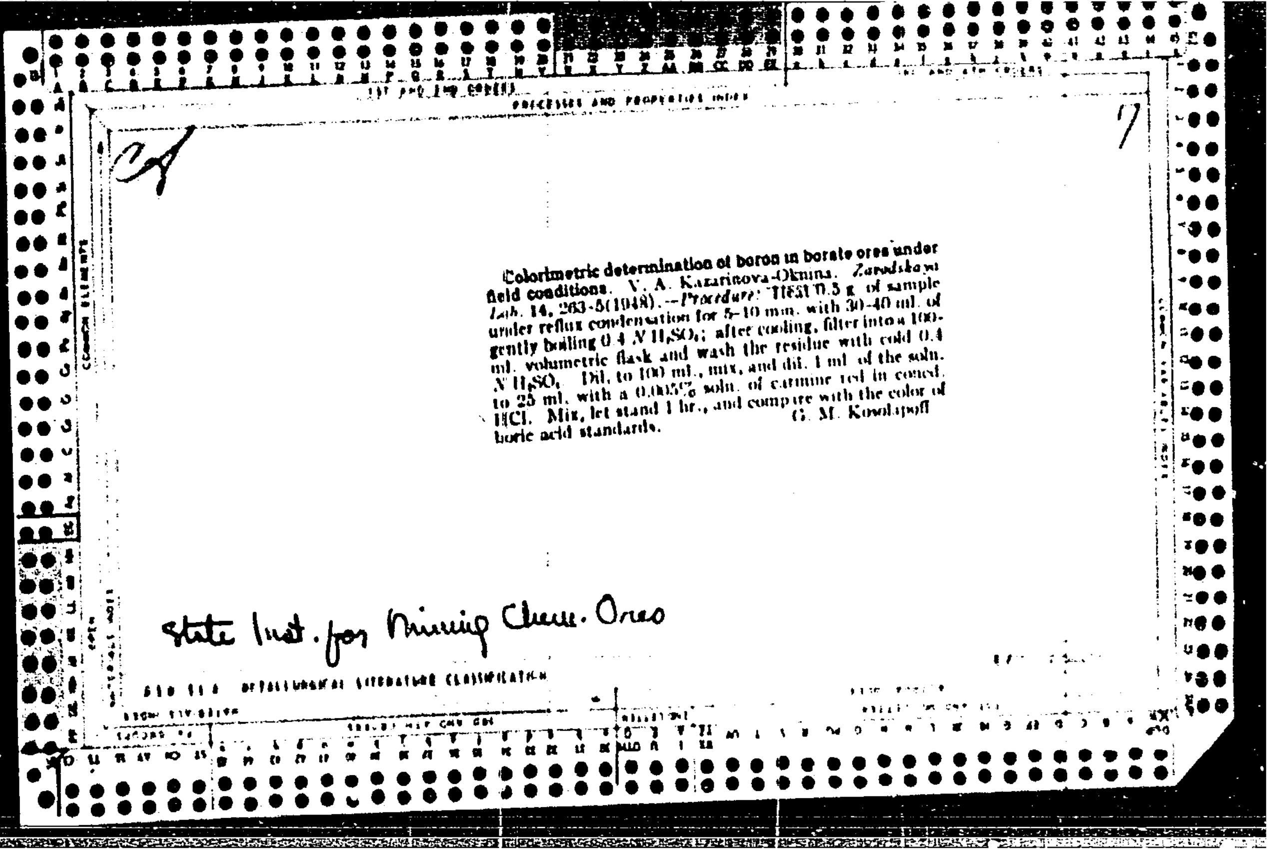
CA

7

Determination of fluorine in borates V. A. Karatin-ova-Oknina. *Zavodskaya Lab.* 13, 381-2(1947).—Cover the finely ground sample + 150-200 g. of glass chips + 0.5 g. $CaCO_3$ with water, gradually add 50 ml. H_2SO_4 (1:1) Keep and distil by gradually raising the temp. to 135°. Collect this temp. until HF has distd. over completely. the distillate in 50- or 100-ml. portions and titrate each portion separately. The titration can be made by either of two methods. (1) To the distillate add 1.5 ml. of the indicator (0.05% soln. of Na alizarinsulfonate) and titrate with N KOH until the soln. is pink. Then add 30 ml. of 95% EtOH and introduce HCl 0.024 N dropwise until the color changes from red to yellow (pH 3.5). After that add one more drop of HCl (0.024 N) and titrate against a white background with $Th(NO_3)_4$ until the color changes from yellow to pink. (2) To the distillate add 1.0 ml. indicator (0.05% soln. of alizarin red) and 0.1 N Na_2CO_3 soln. until the indicator turns violet, then add 1-2 ml. of Na_2CO_3 soln. in excess. Evap. the soln. to 30-40 ml., neutralize with hot 0.05 N HCl until the indicator changes to yellow, add one ml. 0.4 N AcOH and titrate immediately with 0.5 N $Th(NO_3)_4$ in AcOH to a bright pink coloration.

B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



3A

7

Colorimetric determination of boron in borate ores under field conditions. V. A. Kazarinova-Okuina. *Zavodskaya Lab.* 14, 263-5(1948).—*Procedure:* Heat 0.5 g. of sample under reflux condensation for 5-10 min. with 30-40 ml. of gently boiling 0.4 N H_2SO_4; after cooling, filter into a 100-ml. volumetric flask and wash the residue with cold 0.4 N H_2SO_4. Dil. to 100 ml., mix, and dil. 1 ml. of the soln. to 25 ml. with a 0.005% soln. of carmine red in concd. HCl. Mix, let stand 1 hr., and compare with the color of boric acid standards. G. M. Kosolapoff

State Inst. for Mining Chem. Ores

OKNINA, V. A. Cand Chem Sci

Dissertation: "Photocolorimetric Methods for Chemical Analysis of Natural Phosphates and Boron-Containing Ores." 20/10/50

Sci Inst for Fertilizers and Insectofungicides, Ministry of Chemical Industry USSR.

SO Vecheryaya Moskva
Sum 71

KAZARINOVA-OKNINA, V. A.

1/938. Complexiometric method of determining magnesium in carnallite salts and ores containing boron. V. A. Kazarinova-Okhina (State Sci. Res. Inst. Mineral Raw Materials). *Zavod. Lab.*, 1955, 21 (6), 644-646.—For the determination of Mg and Ca in carnallite, the solution at pH 12 is titrated with EDTA (disodium salt) (I), with murexide as indicator, to give the content of Ca. Another portion is titrated, with Eriochrome black T as indicator, to give the sum of Ca and Mg; Mg is obtained by difference. For the determination of Ca and Mg in borate ores, the ore is extracted with HCl, and 25 to 50 ml of the solution containing 1 to 30 mg of Ca and Mg are treated with aq. NH_3 to ppt. the sesquioxides, and the solution is filtered. The solution is evaporated to a suitable volume and Ca and Mg are determined as described above. For the determination of Ca and Mg in the presence of phosphate, *e.g.*, in apatite, Ca is determined first by decomposing 0·5 g of apatite with 10 ml of HCl (1 + 1), diluting to 250 ml, taking a 50-ml aliquot portion and adding to it 25 ml of 0·1 *N* I; NaOH solution, 10 to 20 per cent., is added to give a pH of 12 (universal indicator), and then 0·2 to 0·3 g of murexide indicator. The excess of I is determined by titration with 0·1 *N* $CaCl_2$. Under the same conditions, 25 ml of I solution are titrated with the $CaCl_2$ solution. The result is calculated to Ca. The total Ca and Mg is determined by adding 25 ml of 0·1 *N* I to 50 ml of the acid extract, adding 10 ml of a buffer solution (prepared by dissolving 67 g of NH_4Cl in water, adding 570 ml of 25 per cent. aq. NH_3 solution and diluting to 1 litre), and 8 to 10 drops of Eriochrome black T indicator. The solution is diluted to 100 ml and carefully titrated with 0·1 *N* $MgSO_4$. Under the same conditions, 25 ml of I solution are titrated with the $MgSO_4$ solution.

G. S. Smith

KAZARKIN, R. F.

USSR / Farm Animals. Small Horned Stock.

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54783.

Author : Kazarkin, R. F.
Inst : Not given.
Title : On Breeding Work in the Rearing of Karakul Sheep.

Orig Pub: Khodzhagii qishloqi Todzhikiston, S. kh. Tadzhikistana, 1957, No 7, 10-12.

Abstract: No abstract.

Card 1/1

Concerning the Structure of an
Intermetallic Zr Compound. Brief
Communication

77122
SOV/70-4-6-23/31

J. Inst. Metals, 86, 504, 1957-1958.

SUBMITTED: July 21, 1959

Card 2/2

22436

53610

S/080/61/034/007/011/016
D223/D305

AUTHORS: Malkina, N.I., and Kazarnoskiy, S.N

TITLE: The synthesis of cyanuric acid from urea nitrate (Report 1)

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 7, 1961, 1583 - 1587

TEXT: Data in technical literature do not give the reaction mechanism of the thermal treatment of urea nitrate under atmospheric pressure and the present work deals with these aspects. With an accuracy of 0.01 gr., 3 gr. of urea nitrate in a glass test tube were heated in an oil thermostate to the required temperature and for the required time. After this the test tube was taken out, cooled and the contents weighed. Ammonium cyanate was determined from the portions of the product by potentiometric titration. The principle of the separation method for determining ammeline and ammelide consisted of the alkaline extraction of samples of the

Card 1/5

22436

The synthesis of cyanuric ... S/080/61/034/007/011/016
D223/D305

product followed by the spectrophotometric analysis of ammeline and ammelide (Ref. 27: N.I. Malkina, A.I. Finkel'shteyn, ZhFKh 32, 5, 981, 1958). For better clarification of the process, the separate products were expressed as the yield on the initial urea nitrate via carbon mass balance. To study the kinetics of formation, cyanuric acid was produced at temperature intervals of 132-150°C and for corresponding experimental times of 15, 30, 60, 120, 180 minutes. In order to increase the yield of cyanuric acid and also to free it from side products a series of experiments were carried out, the results of which are given in the following table:

Table. Cyanuric acid and oxyamino products (ammeline and ammelide) content in the melt.

Legend: 1 - content (% on initial urea nitrate); 2 - before HNO_3 treatment; 3 - after HNO_3 treatment; 4 - cyanuric acid; 5 - ammeline and ammelide; 6 - cyanuric acid; 7 - ammeline and ammelide.

Card 2/5

22436
S/080/61/034/007/011/016
D223/D305

The synthesis of cyanuric ...

Table (cont'd)

Содержание циануровой кислоты и оксиаминопроизводных (аммелина и аммелида) в плаве

① Содержание (% от исходной мочевины)			
② до обработки азотной кислотой		③ после обработки азотной кислотой	
④ циануровой кислоты	⑤ аммелина и аммелида	⑥ циануровой кислоты	⑦ аммелина и аммелида
45.0	14.8	64.0	0
45.7	13.6	63.3	0
46.6	14.0	64.0	0
45.6	14.8	64.1	0
46.0	14.0	64.8	0
44.8	14.0	63.0	0
45.0	14.2	64.6	0
44.2	13.0	60.2	0

Card 3/5

22436
S/080/61/034/007/011/016
D223/D305

The synthesis of cyanuric ...

1 table and 27 references: 8 Soviet-bloc and 19 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: H. Iida, J. Chem.Soc., Japan, Ind. Chem. Sect., 54, 775, 1951; Ch. A., 47, 1953; H. Iida, K. Vamakawa, J. Chem. Soc. Japan, Ind. Chem. Sect., 57, 587, 1954; Ch. A., 49, 6609, 1955; Z. Voshida, R. Oda, J. Chem. Soc. Japan, Ind. Chem. Sect., 56, 92, 1953; Ch. A. 49, 4679, 1955; H. Kinoshita, Rev. Phys. Chem. Japan, 25, 34, 1955; Ch. A., 50, 7114, 1956.

X

ASSOCIATION: Gor'kovskiy politekhnicheskiy institut imeni A.A. Zhdanova (Gor'ky Polytechnic Institute imeni A.A. Zhdanov)

SUBMITTED: May 4, 1960

Card 5/5

KAZARNOVSKAYA, B. E. Cand. Tech. Sci.
(maybe B?)

Dissertation: "Shifting of the Water-Petroleum Contact and Flooding of Oil Wells Under Water Pressure Conditions of a Field." Moscow Order of the Labor Red Banner Petroleum Inst imeni Academician I. M. Gubkin, 3 Jun 47.

SO: <u>Vechernyaya Moskva</u>, Jun, 1947 (Project #17836)

KAZARNOVSKAYA, B. F. PA 8T57

(may be F. E.)

USSR/Oil Wells Mar 1947
Petroleum - Well drilling

"Movement of Water-oil Interface and Water Encroachment into Wells Under Hydrostatic Heat," B. F. Kazarnovskaya, 4 pp

"CR Acad Sci" Vol LV, No 8

Consideration of an oil reservoir of great length with a plane oil-bearing stratum, slightly inclined to the horizon, and wells drilled at right angles to it.

8T57

KAZARNOVSKAYA, D. B.

Kazarnovskaya, D. B. -- "The Equilibrium of the Reaction of Methanol Synthesis from Carbon Monoxide and Hydrogen at Elevated Pressure." Moscow State U imeni M. V. Lomonosov. Moscow, 1956. (Disseration for the Degree of Candidate in Chemical Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

KAZARNOVSKIY, Ya.S., kand.khim.nauk; SIDOROV, I.P., kand.tekhn.nauk;
KAZARNOVSKAYA, D.B., kand.khim.nauk

Equilibrium of homogeneous gas reactions at high pressure.
Trudy GIAP no.7:21-25 '57. (MIRA 12:9)
(Phase rule and equilibrium) (Gases)

SIDOROV, I.P.; KAZARNOVSKAYA, D.B.; ANDREICHEV, P.P.

Recirculation flow method for studying the kinetics of heterogeneous catalytic reactions at high pressures. Kin.i kat. 3 no.4:523-526 Jl-Ag '62. (MIRA 15:8)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut azotnoy promyshlennosti.

(Catalysis)

KAZARNOVSKIY, Ya.S.; KAZARNOVSKAYA, D.B.; SIDOROV, I.P.

Equilibrium of homogeneous gas mixture reactions at high pressure. Khim.prom. no.10:747-750 O '62. (MIRA 15:12)
(Gases)
(Chemical equilibrium)

KAZARNOVSKAYA, D. B.; SIDOROV, I. P.; KAZARNOVSKIY, Ya. S.

[redacted]

Determination of the compressibility of methanol, carbon monoxide-hydrogen and carbon monoxide-hydrogen-methanol mixtures at high temperatures and pressures. Khim. prom. no.3:205-211 Mr '63. (MIRA 16:4)

(Methanol) (Carbon monoxide) (Hydrogen)
(Compressibility)

MIKHAYLOVA, E.A.; SIDOROV, I.P.; KAZARNOVSKAYA, [illegible]

Determination of the compressibility of carbon monoxide - hydrogen - methanol mixtures. Khim.prom. 41 no.7:506-508 Jl '65. (MIRA 18:8)

KAZARNOVSKIY, Ya.S.; KAZARNOVSKAYA, D.B.; SIDOROV, I.P.

Equilibrium of the reaction of methanol synthesis from carbon monoxide and hydrogen at high pressure. Khim. prom. no.6: 426-433 Je '63. (MIRA 16:8)

(Methanol) (Carbon monoxide) (Hydrogen)

KAZARNOVSKIY, Ya. S.; MIKHAYLOVA, S. A.; KAZARNOVSKAYA, D. B.

Influence of pressure on the thermal effect of the synthesis of methanol from carbon oxide and hydrogen. Khim prom no. 3: 183-187 Mr '64. (MIRA 17:5)

KAZARNOVSKIY, V.D., inzh.; KAZARNOVSKAYA, E.A., inzh.

Washing salty soils for road construction. Trudy MADI no.22:
170-175 '58. (MIRA 12:4)
(Soil physics) (Road construction)

KAZARNOVSKAYA, O.

They have been teachers from the very beginning. IUn.nat.
no.1:13-15 Ja '60. (MIRA 13:5)
(TRANSPLANTATION OF ORGANS, TISSUES, ETC.)

AZERNIKOV, V.; ARLAZOROV, M.; ARSKIY, F.; BAKANOV, S.; BELOUSOV, I.;
BILENKIN, D.; VATEL', I.; VLADIMIROV, L.; GUSHCHEV, S.;
YELAGIN, V.; YERESHKO, F.; ZHURBINA, S.; KAZARNOVSKAYA, G.;
KALININ, Yu.; KELER, V.; KONOVALOV, B.; KREYNDLIN, Yu.;
LEBEDEV, L.; PODGORODNIKOV, M.; RABINOVICH, I.; REPIN, L.;
SMOLYAN, G.; TITARENKO, V.; TOPILINA, T.; FEDCHENKO, V.;
EYDEL'MAN, N.; EMME, A.; NAUMOV, F.; YAKOVLEV, N.;
MIKHAYLOV, K., nauchn. red.; LIVANOV, A., red.

[Little stories about the great cosmos] Malen'kie rasskazy o bol'shom Kosmose. Izd.2., Moskva, Molodaia gvardiia, 1964. 368 p. (MIRA 18:4)

L 04311-67 EWT(m)/EWP(t)/ETI IJP(c) JD/WB

ACC NR: AP6018265 (N) SOURCE CODE: UR/0133/66/000/002/0171/0173

AUTHORS: Fomin, V. V. (Candidate of technical sciences); Kazarnovskaya, I. I. (Engineer) 41

ORG: none 35 B

TITLE: Resistance of martensite and martensite-ferrite type steels to hydro-erosion

SOURCE: Stal', no. 2, 1966, 171-173

TOPIC TAGS: alloy steel, marine equipment, sea water corrosion

ABSTRACT: The resistance of 10 different martensite and martensite-ferrite types of steel to hydro-erosion was studied. The study was carried out with the aid of a magnetostriction vibrator as described by I. N. Bogachev and R. I. Mints (Kavitatsionnoye razrusheniye zhelezouglerodistykh splavov, Mashgiz, 1959). The rate of motion of the specimen was approximately 80 m/sec and the diameter was 8 mm. Several specimens were tested under natural conditions in sea water. The influence of annealing temperature on the flow impact resistance of the different steels was determined. Microstructure photographs of the specimens are presented. The experimental results are summarized in graphs and tables (see Fig. 1). It was found that the martensite and martensite-ferrite type steels acquire a high resistance to hydro-erosion as a result of quenching and annealing. Steels 1Kh14ND, 0Kh16N4D4T, and 30Kh14G6T possess high resistance to hydro-erosion and action of sea water. It is

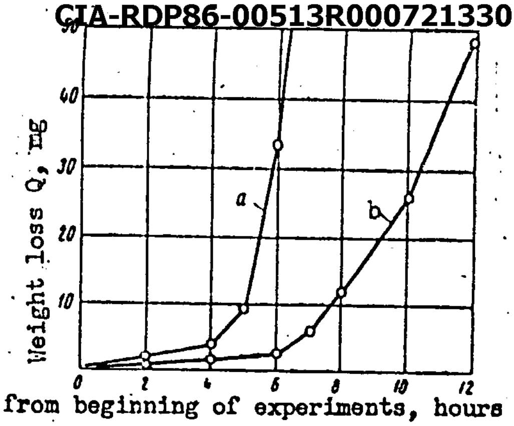
Card 1/2 UDC: 620.193.16:669. 15—194:669.26

L 04311-67

ACC NR:

6

Fig. 1. Destruction curves for steel 18K2N4VA obtained in hydro-erosion experiments:
(a) annealed state,
(b) quenched and annealed state.



recommended that steels 4Kh13, 20Kh13N, Kh18, and Kh10S2M be used in the construction of parts designed to operate under conditions of intensive cavitation. Orig. art. has: 1 table and 5 graphs.

SUB CODE: 11, 13/SUBM DATE: none/ ORIG REF: 005

Stainless Steel 18

Card 2/2 gl

(w)/EWA(d)/T/EWP(t)/EWP(k) IJP(c) JD/WH/WB

ACC NR: AP6004175 (N) SOURCE CODE: UR/0096/66/000/002/0083/0086

AUTHOR: Fomin, V.V. (Candidate of technical sciences, Dissertant); Kazarnovskaya, I.I. (Engineer)

58
54
B

ORG: Murmansk Marine High School (Murmanskoe Vyssheye morekhodnoe uchilishche)

TITLE: Resistance of high strength stainless steels to the shock-cyclic action of a water jet

SOURCE: Teploenergetika, no. 2, 1966, 83-86

TOPIC TAGS: wear resistant alloy, high strength steel, stainless steel, mechanical shock resistance

ABSTRACT: In the experimental work, the resistance to failure was determined in a jet-shock unit in fresh water, at a rotation velocity of the samples of about 80 meters/sec and a diameter of the exit opening of the nozzle of 8 mm. The following types of steel were tested: 1Kh41ND, 0Kh17N3G4D2T, 30Kh14G6T, 0Kh16N4D4T, 1Kh18N9T, 25Kh14G12, 1Kh16G14AT, 20Kh16G14N3AF, and Kh25N5M. A table lists the mechanical properties and the resistance to wear of the steels investigated under the conditions of the experiments. It was found that the highest wear resistance under the experimental conditions was exhibited by the

Card 1/2

UDC: 669.15--194:620.193.16

ACC NR: AP6004175

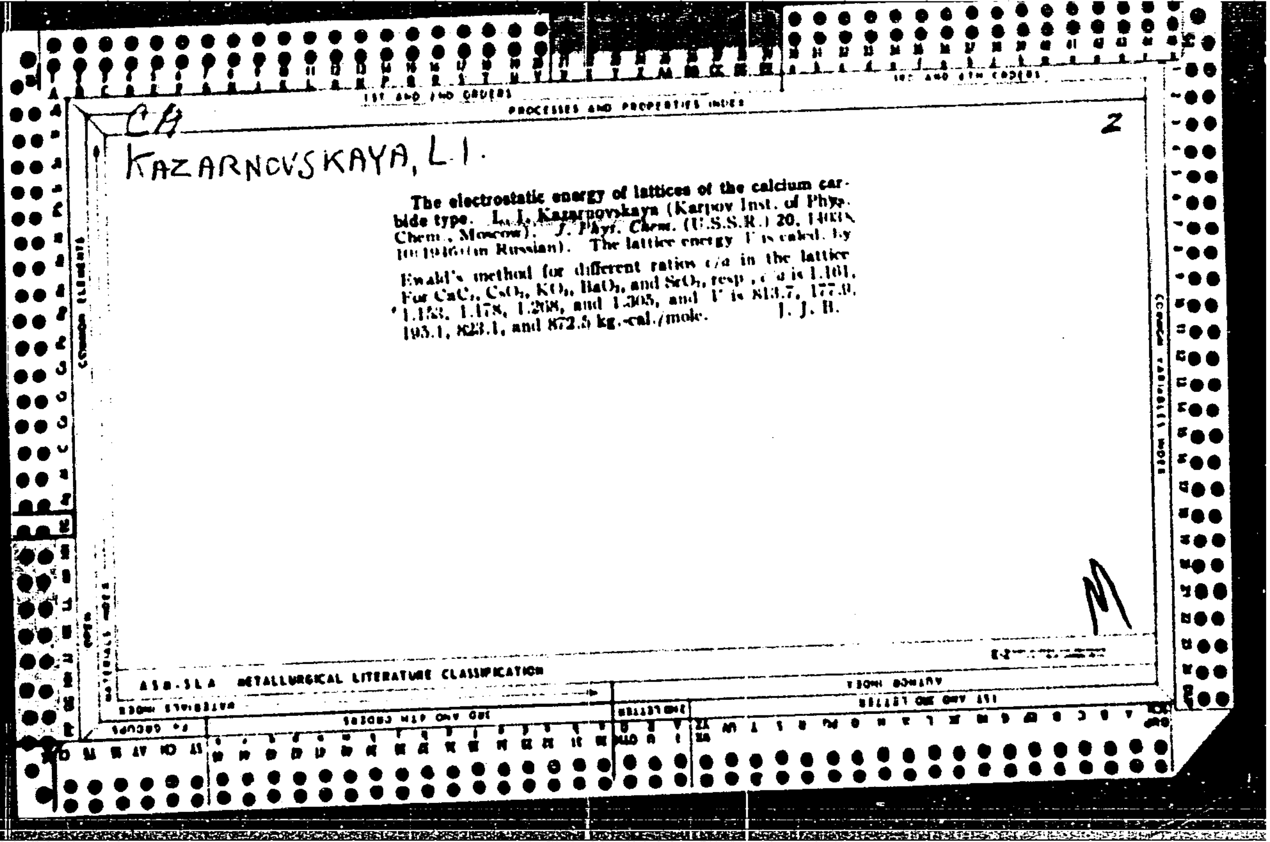
4

dispersion-hardened austenitic steels 1Kh16G14AT and 20Kh16G14N3AF, additionally alloyed with nitrogen, and the dispersion hardened steel 0Kh16N4D4T. A high resistance to jet-shock wear was attained by quenching from 1160°C with subsequent aging at 700°C for 10 hours. The steels investigated are stainless and have sufficient corrosion 16 resistance in fresh and salt water. Orig. art. has: 4 figures and 3 44 55 tables.

SUB CODE: 11/ SUBM DATE: 00/ ORIG REF: 002/ SOV REF: 000/ OTH REF: 000

livk

Card 2/2



CA

KAZARNOVSKAYA, L.I.

2

The electrostatic energy of lattices of the calcium carbide type. L. I. Kazarnovskaya (Karpov Inst. of Phys. Chem., Moscow). *J. Phys. Chem.* (U.S.S.R.) 20, 1403-10(1946)(in Russian). The lattice energy U is calcd. by Ewald's method for different ratios c/a in the lattice. For CaC_2, CaO_2, KO_2, BaO_2, and SrO_2, resp., c/a is 1.161, 1.153, 1.178, 1.208, and 1.305, and U is 813.7, 177.0, 193.1, 823.1, and 872.5 kg.-cal./mole. J. J. B.

CA KAZARNOVSKAYA, L.I. 2

Heat of formation of potassium ozonide and electron affinity of the ozone molecule. O. P. Nikol'skii, L. I. Kazarnovskaya, Z. A. Bagdasar'yan, and I. A. Kazarnovskii (L. Ya. Karpov Phys.-Chem. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 72, 713-15(1950).—The heat of soln. of the ozonide KO_3 (prepd. by the action of O_3 on dry KOH and extn. with liquid NH_3) in dil. H_2SO_4, according to $2KO_3 + H_2SO_4$ (aq.) → K_2SO_4 (aq.) + H_2O + $^5/_2O_2$, was detd. calorimetrically to (av.) 32.7 kcal./mole; hence, with the aid of known thermochem. data, the calcd. heat of formation of KO_3 from the elements is 62.1 ± 0.9 kcal./mole. For the decompn. $2KO_3 \rightarrow 2KO_2 + O_2$, $\Delta H^\circ = -11.6$, $\Delta S^\circ = 33$ e.u., $\Delta F^\circ_{298} = -21.63$ kcal./mole. For the reactions involved in the prepn. of KO_3, the mechanism $KOH + O_3 \rightarrow KO_3 + OH$ is excluded by the thermodynamic data, calcd. to $\Delta H^\circ = 15.4$, $\Delta S^\circ = -3.2$, $\Delta F^\circ_{298} = 16.35$; one possible mechanism involves the intermediate HO_2, namely $KOH.O_3 + O_3 \rightarrow KO_3 + O_2 + HO_2$. The lattice of KO_3 being analogous to that of KN_3, tetragonal of the K_2F_2 type with $a = 6.094$, $c = 7.056$ A., the lattice energy is calcd. to 149 kcal.; hence, the electron affinity of O_3 is calcd. to 67 kcal., i.e. 3 times the electron affinity of O_2. N. Thon

KAZARNOVSKAYA, L. I. 2

Heat of formation of KO_2. L. I. Kazarnovskaya and I. A. Kazarnovskii (Karpov Phys.-Chem. Inst., Moscow). *Zhur. Fiz. Khim.* 25, 293-5(1951).—The heat of formation ΔH of KO_2 ($K_{(s)} + O_{2(g)} = KO_{2(s)}$) is calcd. from the exptl. heat of soln. of KO_2 in dil. H_2SO_4 solns. detd. calorimetrically between 21 and 23°. Corrections are made for the presence of K_2O_2 (2.43%), $KOH.H_2O$ (5.80%), and K_2CO_3 (0.72%) in the samples of KO_2. From 13 detns. with 3 kinds of samples of slightly different compn., the value $\Delta H = 67.9 \pm 0.1$ kcal./mole is obtained in good agreement with the value of 67.5 kcal./mole measured by Forcrand (*C.A.* 8, 2310) with samples of unspecified compn.

Michel Boudart

КАЗАРНОВСКАЯ, Л. И.

KAZARNOVSKAYA, L.I., kand. khim. nauk.

Catalysts for the oxidation of hydrocarbons in a krypton concentrate. Kislorod 10 no.3:25 '57. (MLRA 10:11)
(Catalysts) (Hydrocarbons)

Kazarnovskaya, L.I

AUTHORS: Kazarnovskaya, L.I., Dykhno, N.M., Narinskiy, G.B. 32-11-46/60

TITLE: A Device for the Analysis of Oxygen-Nitrogen-Argon Mixtures (Ustanovka dlya analiza smesey kislorod-azot-argon)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 11, pp. 1387-1388 (USSR)

ABSTRACT: In order to be able to carry out the analysis mentioned accurately, a device is recommended, which is based upon the principle of the absorption of oxygen by copper and of nitrogen by calcium with intermediate measurements of the pressure of the remaining gas. The content of argon and nitrogen can in this case be attained with an accuracy of up to 0.02-0.05% at a concentration of < 5%. Though beyond that analysis up to a content of 80% is possible, accuracy is then reduced. The following are the basic parts of such a device: A burette with a capillary arc, a U-shaped glass tube with copper and calcium; the burette (of 30 ml content) consists of some cylindrical reservoirs with capillaries between them. The glass tubes are sealed by mercury with a manometer tube. The burette is in a glass vessel, which is filled with water and is provided with a thermometer. Gas pressure is here measured according to the mercury column, for which purpose a vessel is provided in which mercury is able to rise under pressure.

Card 1/2

It is provided with two faucets: one leading to the air, the other to the pre-vacuum pump. Absorption of oxygen is carried out in a Jena glass tube by means of granulated copper. Absorption of the nitrogen was brought about in a quartz tube which is filled with calcium shavings. The gas mixture is conveyed by means of a mercury pump. The process of analysis is described and examples of computations carried out are given. There is 1 figure.

ASSOCIATION: All-Union Scientific Research Institute for the Building of Oxygen Machines (Vsesoyuznyy nauchno-issledovatel'skiy institut kislorodnogo mashinostroyeniya)

AVAILABLE: Library of Congress

Card 2/2

67-58-3-7/18

AUTHORS: Dil'man, V.V., Candidate of Technical Sciences,
Kazarnovskaya, L.I., Candidate of Chemical Sciences

TITLE: The Prevention of the Carrying-Off of Lye From Decarbonizers
(Preduprezhdeniye unosa shchelochi iz dekarbonizatorov)

PERIODICAL: Kislorod, 1958, Vol. 11, Nr 3, pp. 35-36 (USSR)

ABSTRACT: In high-pressure oxygen apparatus the purification of air from carbon dioxide is in the USSR carried out with lye (with a caustic soda content of 9.5-10%). It happens on this occasion that the lye is carried into the apparatus by the draft of air if an excessive quantity of foam forms on the lye. It is said that this forming of foam, which exercises a detrimental effect and usually disturbs the operation of the apparatus, cannot be explained by the quality of or by the manner in which the lye is prepared, and therefore investigations were carried out in this direction. Four samples of caustic mixtures were investigated: 1.) Used (impure) samples; 2.) Pure samples; 3.) Such as were taken from the upper part of the carbonizer; 4.) Such taken from the lower part of the carbonizer. The results obtained showed in a convincing manner that the carrying away of the lye from the decarbonizer into the apparatus

Card 1/2

25(6),5(2) SOV/67-59-2-5/18

AUTHORS: Kazarnovskaya, L. I., Candidate of Chemical Sciences, Dykhno, N. M., Candidate of Chemical Sciences

TITLE: Catalytic Combustion of Small Quantities of Methane in Oxygen (Kataliticheskoye szhiganiye malykh kolichestv metana v kislorode)

PERIODICAL: Kislorod, 1959, 12 Nr 2, pp 28-33 (USSR)

ABSTRACT: Small quantities of hydrocarbons are always contained in the first krypton concentrate (during the extraction of krypton from air and liquid oxygen). They were removed on various catalysts by combustion at 800°. Due to its low degree of oxidizability, methane forms the main part of these hydrocarbons. Only a few papers have hitherto been published concerning the process of catalytic combustion of methane in oxygen. In this article the efficiency of various catalysts was investigated and the catalysts were selected according to which are best suited for the combustion of small impurities of oxygen resulting from methane and other hydrocarbons. The authors investigated cupric oxide, active aluminum oxide platinum catalysts, copper-chromium catalysts, and

Card 1/3

Catalytic Combustion of Small Quantities of Methane in Oxygen SOV/67-59-2-5/18

manganese ores activated by silver. Oxygen with an impurity of 0.02-0.4 % methane was used for the investigation. The diagram of the plant used for investigating the catalysts is contained in figure 1. First, the gas was purified from carbon dioxide and then passed through the reaction vessel, which was heated in a crucible furnace. The gas consumption was indicated by a rheometer. A small portion of the gas which had flowed through the reaction vessel was passed through caustic soda in order to determine the quantity of methane burnt on the catalyst. The other portion is led over a glowing platinum coil, where the rest of methane is burnt. The CO_2 content of the gas flowing out here is determined by the titrimetric method. The degree of combustion of methane was measured in dependence of temperature and the gas volume which had passed through. (Figs 2,3; Table 1). Further, the authors investigated the catalytic activity of manganese ores activated by silver, i.e. dependent on their silver content and grain size. It resulted from all investigations that manganese ores with and with no silver content are

Card 2/3

Catalytic Combustion of Small Quantities of Methane in Oxygen SOV/67-59-2-5/18

the most favorable catalysts. A change in the silver content affects the catalytic activity only to a small extent. Methane is completely burnt on manganese ore as soon as a temperature of 360°, a content of 0.10-0.15 % methane in oxygen and a weight rate of flow of up to 560 l/h has been attained. At 400° the rate may be increased to 750 l/h. It resulted from investigations performed in the krypton plant of the Shchekinskiy gazovyy zavod (Shchekino Gas Works) with the assistance of A. A. Mokin, head of the oxygen plant, and A. P. Podchufarov, head of the krypton plant, that, by use of a furnace with catalysts filled with manganese ore or manganese ore activated by silver hydrocarbon, impurities of the krypton concentrate are burnt already at 460° (compared with 780° in the case of alumina catalysts) without deteriorating the degree of methane combustion. There are 6 figures, 3 tables, and 6 Soviet references.

Card 3/3

S/064/61/000/001/007/011
B132/B218

AUTHORS: Kazarnovskaya, L. I., Dykhno, N. M, Vagin, Ye. V.

TITLE: Burning of methane in mixtures with inert gases

PERIODICAL: Khimicheskaya promyshlennost', no. 1, 1961, 29-32

TEXT: The authors have developed an industrial method of purifying inert gases obtained in the production of crypton from methane. Several catalysts were used to oxidize methane quantitatively: manganese ores from Nikopol' and Chiatura, nickel catalysts, and activated cupric oxide. The initial mixtures contained nitrogen and methane, and some of them also small amounts of oxygen. Also other carbon hydroxides were burned under the oxidation conditions for methane. The experimental unit used for this purpose is schematically shown in Fig. 1. The catalyst was introduced into stainless steel tube (1) and heated in electric furnace (2). The necessary CH_4/N_2 ratio was brought about by rheometers (3) and (4), and then the mixture was conveyed to mixing vessel (5). In column (6), the mixture was purified from CO_2 admixtures by means of solid NaOH, and then passed into tube (1). A

Card 1/7

special procedure was applied when the CH_4 content was less than 1%. In this case, part of the gas current was diluted with O_2 up to a ratio 10:1; this was done in mixing vessel (10) by means of rheometers (8) and (9). Then, the gas was purified from CO_2, CH_4 was burned on a platinum coil, and then the CO_2 evolved was determined titrimetically. When the CH_4 concentration was above 1-2%, the gas analyzer ВТИ (VTI) was used. The catalysts were reactivated by N_2-O_2 mixtures, reactivation being determined from the difference in oxygen content in front of and behind the catalyst layer. As manganese ore is not regenerable, it cannot be used as a catalyst. A nickel catalyst loses its activity if the gas mixture contains CO_2 or high concentrations of CH_4. At methane concentrations below 5%, it may easily be used. At a temperature of 500°C, a volume rate of 65 hr^{-1}, and an initial CH_4 content of 4.5%, the residual methane concentration was less than 0.5-0.7% for 10 hr . The use of activated cupric oxide yielded the best results.

Card 2/7

This catalyst was produced by the method of M. A. Shpolyanskiy (Ref. 3: Zav. lab. 19, no. 10, 1166 (1953)). It was composed of a 99:1 mixture of CuO and Fe_2O_3 (80%) and kaolin (20%). The experiments were made at 660°C and at a volume rate of 65 hr^{-1} with binary N_2 at a CH_4 content of 4.5%, and with ternary N_2 (82%) at a CH_4 content of 11% (O_2 amounting to 7%). With one catalyst, 15 cycles of methane burning and catalyst reactivation were carried out. The residual CH_4 concentration did not exceed 0.5% before seven to nine hr. After this time, the utilization coefficient of CuO was about 25%. The above experiments were made in a pilot plant schematically shown in Fig. 4. At a CH_4 content of 9.1%, the residual CH_4 concentration could be maintained for three and a half hr at 0.24% if a temperature of 750°C and a volume rate of 70 hr^{-1} were used (Fig. 5). When the volume rate of 70 hr^{-1} was reduced to 35 hr^{-1}, the residual CH_4 concentration dropped below 0.075%. At initial concentrations of methane of 2.3% and 9.1% the residual concentrations were

0.1-0.2%. A residual concentration of 0.5% was attined after 13 hr at an initial concentration of 2.3%, and after 7 to 8 hr at an initial concentration of 9.1%. When the initial concentration was 0.35%, the residual methane concentration did not exceed 0.003% during 5 hr. The authors recommend the following experimental conditions as being most favorable: temperature: 700°C; volume rate: 70 hr^{-1}. Activated cupric oxide is the best catalyst since it warrants a maximum efficiency in burning of methane and can be easily regenerated. A. P. L'vova and Ye. N. Razheva took part in experiments with the pilot plant. There are 7 figures and 5 Soviet-bloc references.

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B132/B218

Burning of methane in mixtures...

Fig. 1: Scheme of the laboratory unit for burning of methane; Legend: 1) steel tube; 2) electric furnace; 3), 4), 8), 9) rheometers; 6 and 11) columns with NaOH; 7) water tap; 12) platinum coil; 13) to gas analyzer ВТИ (VTI).

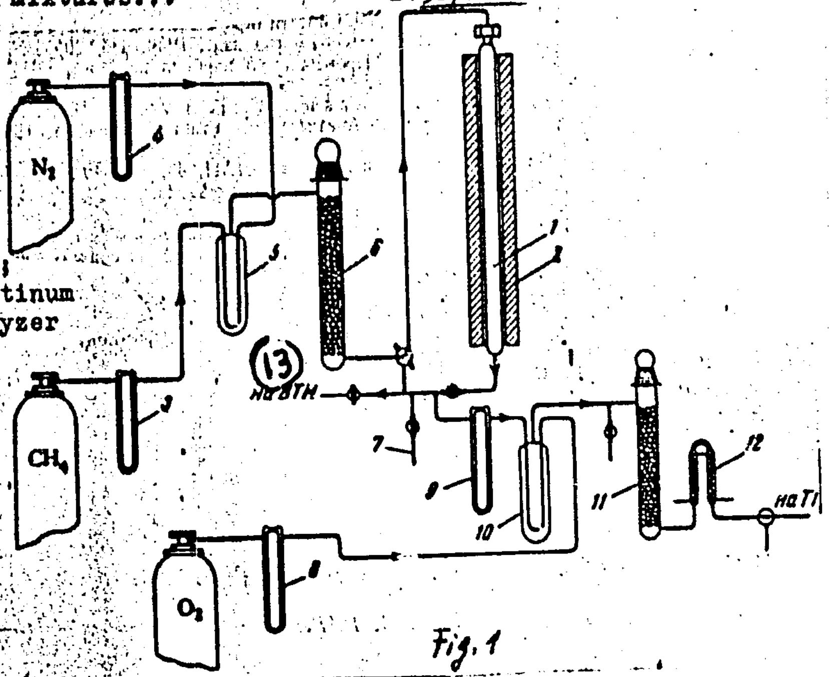

Fig. 1

Card 5/7

S/064/61/000/001/007/011
B132/B218

Burning of methane in mixtures...

Fig. 4: Scheme of the pilot plant; Legend: 1) and 8) valves; 2) and 11) rotameters; 3) CH_4 container; 4) rheometer; 5) contact furnace; 6) water separator; 7) column for the removal of CO_2; 9) ejector; 10) regulating contact galvanometer of type МРЩПР-54 (MRShohPR-54) a) hydrogen, b)c) to type ХТДК (KhTDK) analyzer.

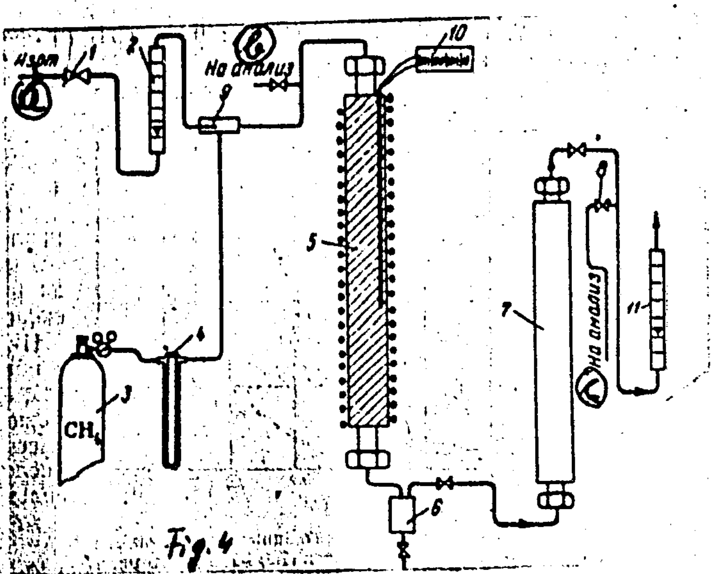

Fig. 4

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B132/B218

Burning of methane in mixtures...

Legend to Fig. 5: Time dependence of the residual concentration of methane during burning with activated CuO at various temperatures. Initital mixture 9.1% CH_4 in N_2; volume rate: 70 hr^{-1}. x) time, hr; y) residual concentration of CH_4%.

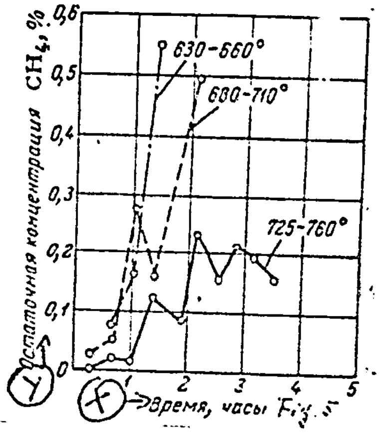

Fig. 5

Card 7/7

38582

S/081/62/000/010/058/085
B168/B180

11.1105

AUTHORS: Kazarnovskaya, L. I., Kraft, D. P.

TITLE: Determination of concentration and solubility of mineral oils in liquid oxygen

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1962, 401, abstract 10K92 (Tr. Vses. n.-i. in-ta kislorodn. mashinostr., no. 2, 1959, 149-158)

TEXT: A visual fluorescent method is described for determining the concentration of oils in liquid oxygen. The oil remaining after evaporating a sample of oxygen is dissolved in dichlorethane, the luminescence of the solution in UV light is compared with that of standard samples. The results agree satisfactorily with determinations by weight. The solubility of lubricating oils in liquid oxygen was found to be $\doteq 0.002$ mg/l. [Abstracter's note: Complete translation.]

X

Card 1/1

KAZARNOVSKAYA, L.I., kand. khimicheskikh nauk; DYKHNO, N.M., kand.
khimicheskikh nauk

Removal of carbon dioxide and water vapor from krypton concentrates by absorption on synthetic zeolites. Trudy VNIIKIMASH no.9:170-179 '65. (MIRA 18:6)

KAZAROVSKAYA, M.A.

KAZARNOVSKAYA, M.A.

Examination of resins in Dagadzhik ozocerite. V. G. Putsillo and M. A. Kazarnovskaya. *Trudy Inst. Nefti, Akad. Nauk S.S.S.R.* [illegible] (1950).—The deposit is located on the Cheleken Island in the Caspian Sea, and the ozocerite content varies between 0.5 and 8%. The rock is a sandstone with about 14% carbonates. Eighty-seven % of the ozocerite is petr. ether-sol., and its resins are little polymerized, since 42% of the bitumen is ether-sol. and only 5% benzene- and chloroform-sol. The bitumen is strongly oxidized, with the formation of satd. acids from paraffin hydrocarbons, and acids with one double bond.

W. M. Sternberg

SHLYAKOV, E.N.; SHROIT, I.G.; GUZ, Ye.V.; KAZARNOVSKAYA, M.L.

Primary intestinal form of anthrax. Zdravookhranenie 4 no. 1:58-59 Ja-F '61. (MIRA 14:2)

1. Iz Moldavskogo instituta epidemiologii, mikrobiologii i gigiyeny (direktor - N.N. Yezhov) i Kishinevskogo meditsinskogo instituta (direktor - N.A. Testemitsanu).

(ANTHRAX)

KAZARNOVSKAYA, O.S.

BERKHMAN, D.L., dotsent (Leningrad); ITSKINA, R.S. (Leningrad);
KAZARNOVSKAYA, O.S. (Leningrad); PERKHUROVA, A.I. (Leningrad);
ROTENFEL'D, M.Z. (Leningrad).

Treatment of tuberculous meningitis in adults. Klin.med. 31 no.12:31-36 D '53. (MLRA 7:1)

1. Iz tuberkuleznogo otdeleniya bol'nitsy im. Kuybysheva.
(Tuberculosis) (Streptomycin) (Meningitis)

33587
S/204/61/001/005/005/008
E075/E484

11.1330

AUTHORS: Bobkov, S.S., Kazarnovskaya, R.Sh.

TITLE: Some problems concerning oxidation of ethylene

PERIODICAL: Neftekhimiya, v.1, no.5, 1961, 661-668

TEXT: The paper gives results of an investigation into the oxidation kinetics of explosion-safe mixtures of ethylene with oxygen and nitrogen. The concentration of oxygen was below the upper limit of flammability, i.e. below 13%. The experiments were conducted in a flow-circulating apparatus. Ethylene was mixed with nitrogen and fed into the circulating system. Oxygen was added immediately before the gases entered the contacting zone. The catalyst (5 ml of AgO with surface area of 0.3 m^2/g) was placed in a glass tubular reactor (I.D. 22 mm) heated electrically. The oxidation temperature was varied from 200 to 240°C. It was shown that no diffusion effects existed at these temperatures. For the mixtures containing more than 33% of ethylene the velocity constant for the formation of ethylene oxide increases more than 100-fold. Energies of activation calculated for the formation of ethylene oxide and carbon dioxide and water were 14.3 and 21.4 kcal/mole

Card 1/4

33587
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E075/E484

Some problems concerning ...

respectively. All products of the oxidation form directly from ethylene between 190 and 230°C. Formation of CO_2 from ethylene oxide is predominant above 230°C. By changing the concentration of ethylene in the mixture it was shown that the reaction order for the complete and incomplete oxidation of ethylene is zero in the temperature range 200 to 240°C. Reaction of the second order is observed for the reactions $C_2H_4 + O = C_2H_4O$ and $C_2H_4 + 3O_2 = 2CO_2 + 2H_2O$. As the reaction velocity depends both on the content of oxygen and ethylene in the reaction mixture for the above reactions, it is impossible to increase the selectivity of the process by changing the composition of the mixture of reactants. Introduction of CO_2 into the reaction mixture does not increase the oxidation selectivity. Concentration of ethylene oxide has the most marked retarding effect on the velocity of its formation from ethylene, but has no such effect on the formation of CO_2 and H_2O. Thus the removal of ethylene oxide from the reaction mixture greatly increases the selectivity of the process. The retarding action of ethylene oxide, or its oxidation products, results from its irreversible adsorption on ethylene oxide. This effect is especially visible if the catalyst is

Card 2/4

33587
S/204/61/001/005/005/008
E075/E484

Some problems concerning ...

heated before the reaction at 200 to 250°C in the atmosphere of oxygen. It was shown that a part of the adsorbed ethylene oxide can be desorbed from the contact surface in an unchanged state. Apparently the deactivation process in this case is due to adsorption of ethylene oxide on silver. The following empirical equations give the dependence of velocities W_1 and W_2 of the complete and incomplete oxidation of ethylene respectively:

$$W_1 = \frac{k_1 C_{O_2}^2}{C_{C_2H_4O} + k_1' C_{CO_2}} \quad (6)$$

✓

$$W_2 = \frac{k_2 C_{O_2}^2}{1 + k_2' C_{CO_2}} \quad (7)$$

At 225°C $k_1 = 0.12$ and $k_2 = 0.1$

Card 3/4

33587
S/204/61/001/005/005/008
E075/E484

Some problems concerning ...

M.I.Temkin, N.V.Kul'kova, A.I.Kurilenko and M.Ya.Rubanik are mentioned in connection with their contributions in this field. There are 4 figures, 4 tables and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. The two references to English language publications read as follows: Ref.3: Shen Wu-wan. Ind. Eng. Chem. v.45, 1953, 234; Ref.5: A.Orzechowski, K.E.McCormack. Canad. J. Chem., v.32, 1954, 388.

SUBMITTED: May 3, 1961

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Card 4/4

KAZARNOVSKIY, A.N., inzh.

Preventive maintenance of painted surfaces. Trudy TSNII MPS no.208:159-160 '61. (MIRA 14:5)
(Railroads--Cars--Maintenance and repair)

KAZARNOVSKIY, D.L.

Creative initiative at the ITR Dmitrov knit goods factory. Leg.prom. 14 no.2:14-17 F '54. (MLRA 7:5)

1. Glavnyy inzhener fabriki. (Dmitrov--Knit goods industry)
(Knit goods industry--Dmitrov)

KAZARNOVSKIY, D.L.

Improving the preparation of yarn for knitting. Leg.prom. 16 no.5:51-52 My '56. (MLRA 9:8)

1. Glanvyy inzhener Dmitrovskoy trikotazhnoy fabriki.
(Dmitrov--Knit goods industry)

KAZARNOVSKIY, D.L.

New system of repairing technological equipment. Leg. prom. 18 no.9:9-10 S '58. (MIRA 11:10)

1. Glavnyy inzhener Dmitrovskoy perchatochnoy fabriki.
(Knitting machines--Maintenance and repair)

KAZARNOVSKIY, D.L.

Improved equipment and organization in the knit gloves manufacture. Tekst.prom. 23 no.5:20-25 My '63. (MIRA 16:5)

1. Glavnyy inzhener Dmitrovskoy perchatochnoy fabriki. (Dmitrov--Gloves) (Knitting machines)