S/677/61/000/007/002/003
E021/E135

AUTHOR: D'yachkova, I.B.

TITLE: The isomorphism of minerals in the Bi_2S_3-Bi_2Se_3 system

SOURCE: Akademiya nauk SSSR. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov. Trudy, no.7. 1961. Voprosy mineralogii i geokhimii redkikh elementov. 150-155

TEXT: The synthesis of the minerals was carried out by fusing chemically pure bismuth, sulphur and selenium in an evacuated quartz flask at 700-800 °C. The complete system from Bi_2S_3 to Bi_2Se_3 was covered. Cooling curves were drawn for all the alloys using an electronic potentiometer type ЭПП-09 (EPP-09). From the results, the phase diagram was drawn (see figure, x axis in mol.%). X-ray powder photographs of several of the alloys were also taken after homogenising. From the results and also from a study of the literature, it is proposed that up to 67 mol.% Bi_2Se_3 the stable structure is of the bismuthine type.

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With more than 80-85% Bi_2Se_3 the structure is the tetradymite type. A sample of natural ore from Mexico was also examined. X-ray photographs showed the same lines as those in the artificially prepared sample but, in addition, lines corresponding to guanajuatite were present. After a heat treatment the additional lines disappeared. The X-ray investigations were carried out in the Laboratoriya rentgenostrukturnogo analiza (Laboratory of Structural Analysis by X-rays) of IMGRE under the direction of Yu.A. Pyatenko. Acknowledgments are expressed to N.D.Sindeyeva for providing the sample of Mexican natural bismuth selenide. N.S. Gorokhova participated in the tests. I.V. Demin, A.A.Popova, P.V. Babkin, A.A. Godovikov, M.A. Beglaryan, N.Kh. Abrikosov, V.I. Mikheyev and V.F. Bankina are mentioned in the paper for their contributions in this field.
There are 1 figure, 2 tables and 14 references: 6 Soviet-bloc and 8 non-Soviet-bloc. The English language references read as follows:
Ref. 7: R.G. Coleman, The natural occurrence of galena-claustolite solid solution series. Amer.Min., v.44, no.1-2, 1959.

Card 2/2

The isomorphism of minerals in ... S/677/61/000/007/002/003
E021/E135

Ref.8: I.W. Earley, Description and synthesis of the selenide minerals. Amer.Min., v.35, no.5/6, 1950.
Ref.11: T.A. Genth. Contribution to mineralogy. Amer.Sc., v.41, 1891.
Ref.12: Mallet. On the chemical composition of guanajuatite or selenide of bismuth, from guanajuato, Mexico. Amer.Sc., v.15, no.88, 1878.

Card 3/4 3

GODOVIKOV, A.A.; D'YACHKOVA, I.B.

Ferrophosphates from the Moscow region. Zap.Vses.min.ob-va 90 no.6:735-739 '61. (MIRA 15:2)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR.
(Moscow region--Phosphates)

D'YACHKOVA, L.A.

ROMANCHENKO, A.S.; D'YACHKOVA, L.A.

New method for joining copper tubing. Gidroliz. i lesokhim.prom. 10 no.5:26-27 '57. (MLRA 10:8)

1.Yangi-Yul'skiy gidroliznyy zavod.
(Pipe, Copper)

DYACHKOVA, L. I.

"Genetic constitution and Gene-dynamics of wild populations of Drosolphila Melanogaster." Chair of Genetics, All-Union Zootechnical Institute of Fur-Bearing Animals, NK 3, Balashikha, and the Department of Genetics, Institute of Experimental Biology, Ministry of Health, Moscow. (p. 939) by Dubinin, N. P.; Gentner, M. A.; Demidova, Z. A.; and Dyachkova, L. I.

SO: Biological Journal (Biologicheskii Zhurnal) Vol. V, 1936, No. 6

D'YACHKOVA, L.I., assistant

State of the smooth muscles of the stomach following the transection of the vagus nerves. Nauch. trudy SamMI 21:74-78 '62. (MIRA 17:5)

1. Iz kafedry gistologii Samarkandskogo meditsinskogo instituta imeni Pavlova.

D'YACHKOVA, L.I. (Samarkand, ul. Shaumyana, 29)

Sensory innervation and state of the tissue elements in the stomach wall following vagotomy. Arkh. anat., gist. i emb. 45 no.12:30-39 D '63. (MIRA 17:8)

1. Kafedra gistologii (zav. - prof. Z.Kh. Fakhmatullin) Samarkandskogo meditsinskogo instituta imeni akademika I.P. Pavlova.

DAVYDOVA, T.V.; D'YACHKOVA, L.N.

Axodendritic connections of the cerebral cortex; electron microscope study. Dokl. AN SSSR 147 no.5:1191-1192 D '62.
(MIRA 16:2)

1. Institut morfologii zhivotnykh im. A.N. Severtsova AN SSSR. Predstavleno akademikom A.N. Bakulevym.
(Cerebral cortex)

D'YACHKOVA, L. N.; DAVYDOVA, T. V.; YAKOBSON, N. K.

Participation of mitochondria in the formation of synaptic vesicles. Dokl. AN SSSR 147 no.6:1467-1469 D '62.
(MIRA 16:1)

1. Institut morfologii zhivotnykh im. A. N. Severtsova AN SSSR. Predstavleno akademikom A. N. Bakulevym.

(MITOCHONDRIA) (CEREBRAL CORTEX)

D'YACHKOVA, L.N.

Synaptology of the cerebral cortex of monkeys; electron microscopic study. Dokl. AN SSSR 152 no.4:989-991 O '63. (MIRA 16:11)

1. Institut morfologii zhivotnykh im. A.N. Severtsova AN SSSR. Predstavleno akademikom A.N. Belozerskim.

HAMORI, J.; DYACHKOVA, L.N.

Electron microscope studies on developmental differentiation of ciliary ganglion synapses in the chick. Acta biol. Acad. sci. Hung. 15 no.2:213-230 '64

1. Department of Anatomy, Medical University, Budapest (Head: J. Szentagothai) and the Laboratory of neurophysiology (G.D. Smirnov) of the Severcov Institute of Animal Morphology, Moscow (Head: A.A. Mitskevitch).

MYACHKOVA, L.N.

Changes in the ultrastructure of the synapses of the cerebral cortex in apes after stimulation. Dokl. AN SSSR 155 no.1:227-229 Mr '64. (MIRA 17:4)

1. Institut morfologii zhivotnykh im. A.N.Severtsova AN SSSR. Predstavleno akademikom I.S.Beritashvili.

SMIRNOV, G. D.; DAVYDOVA, T. V.; DYACHKOVA, L. N.

"The ultrastructure of synapses in the brain of certain vertebrates."

report submitted to 3rd European Regional Conf, Electron Microscopy, Prague, 26 Aug-3 Sep 64.

D'YACHKOVA, L.N.

Ultrastructure of the synapses of the cerebral cortex in monkeys. Arkh. anat., gist. i embr. 48 no.5:26-33 My '65.

(MIRA 19:1)

1. Gruppa neyrobiologii (rukovoditel' - doktor biol. nauk G.D. Smirnov) Instituta morfologii zhivotnykh imeni A.N. Severtsova AN SSSR, Moskva. Submitted December 18, 1963.

D'YACHKOVA, N.G., STROMSKAYA, Ye.P.

"Protection of school children's health under rural conditions"
by A.G. Popovich. Gig. i san. 23 no.6:89-90 My-Je '58 (MIRA 11:7)
(CHILDREN--CARE AND HYGIENE)
(POPOVICH, A.G.)

D'YACHKOVA, N.G.

Summer work and excursions at the forest school for children with rheumatic fever. Vop.okh.mat. i det. 4 no.4:61-64 Jl-Ag '59. (MIRA 12:12)

1. Iz kafedry gigiyeny detey i podrostkov (zav. - dotsent M.D. Bol'shakova) I Moskovskogo ordena Lenina Meditsinskogo instituta imeni I.M. Sechenova (dir. - prof. V.V. Kovanov).
(RHEUMATIC FEVER) (OPEN-AIR TREATMENT)

D'YACHKOVA, N.G.

Significance of sleep in the open air in a forest school for children with rheumatic fever. Pediatriia 37 no.8:63-67 Ag '59.
(MIRA 13:1)

1. Iz kafedry gigiyeny detey i podrostkov (zav. - dotsent M.D. Bol'shakov) I Moskovskogo ordena Lenina Meditsinskogo instituta imeni I.M. Sechenova.

(RHEUMATIC FEVER, therapy)
(AIR, effects)

D'YACHKOVA, N. G., Cand Med Sci -- "Hygienic substantiation of the daily regimen for forest school for children affected with rheumatic fever." Mos, 1960 (Acad Med Sci USSR). (KL, 1-61, 207)

MIKHAYLOVA, L.V., kand.med.nauk; USIZHCHEVA, TS.L., kand.med.nauk;
Prinimala uchastiye: D'YACHKOVA, N.G.

Schedule and organization of work for pupils in grades 9-11 of secondary schools combining studies with labor in the metal-working industry. Gig. i san. 26 no.9:29-35 S '61.
(MIRA 15:3)

1. Iz Nauchno-issledovatel'skogo instituta fizicheskogo vospitaniya i shkol'noy gigiyeny Akademii pedagogicheskikh nauk RSFSR.

(CHILDREN—EMPLOYMENT)
(SCHOOL HYGIENE)

PERELATOV, V.D.; URAZAYEV, N.M., red.; AKULOV, A.N., red.; VATRIN, P.M., red.; D'YACHKOVA, N.G., red.; KASPAROV, A.A., red.; LITVINOV, N.N., red.

[Work experience of the Rostov Public Health Station in rural areas under the conditions of enlarged districts] Opyt raboty Rostovskoi sanepidstantsii na sele v usloviiakh ukrupnennykh rayonov. Moskva, Meditsina, 1964. 9 p. (MIRA 18:7)

S/020/60/134/005/017/023
B016/B054

AUTHORS: Spitsyn, Vikt. I., Academician and D'yachkova, R. A.

TITLE: Isolation of Weighable Quantities of Pure Protactinium 231 19

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 5, pp. 1111-1114

TEXT: The authors present a review of the production method by A.V.Grosse, M. S. Agruss (Ref. 7), which is based on the sorption on manganese dioxids from nitric acid solutions. They worked out a purification method for milligram amounts of Pa from impurities of niobium, titanium, and zirconium which exceed the Pa content (1-2 mg) by the ten- and hundredfold. The separation of these elements on anionites of USSR production АВ-16 (AV-16), АВ-17 (AV-17), and АН-2Ф (AN-2F) under the conditions described in publications for Dowex-1, did not yield satisfactory results. The use of manganese dioxide proved to be more efficient. The chromatographic sorption of Pa from a 10 N HNO_3 solution permits its separation from large titanium and niobium quantities. These two elements can be fully removed from the column by rinsing with 10 N HNO_3. As the behavior of

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protactinium and niobium is similar under the given conditions, the authors discussed the problem of their separation more thoroughly (Table 1). The use of acid NH_4F solutions for the elution of Pa and Nb permitted a complete separation of these elements when they were absorbed in a column with manganese dioxide. Fig. 1 shows the elution curve of Pa-233 and Nb-95 with 0.5 N HNO_3 + 0.2 N NH_4F. The authors used the above method for the concentration of Pa-231 in the precipitate of Zr-, Ti-, and Nb phosphate. The phosphates were boiled with 10% NaOH solution, and the resulting hydroxides treated with HNO_3. The nitric acid solution was passed through a column with manganese dioxide, and Ti and Zr were removed with 10 N HNO_3. Protactinium was separated from niobium as stated above. As the eluate contained some μg/ml of manganese, it was led through a column with the resin KY-2 (KU-2) where Mn was adsorbed. Thus, milligram quantities of Pa were obtained from some kilograms of initial concentrate. Its chemical purity was confirmed spectroscopically. Pa was additionally identified by the method of isotope dilution and by the energy of α-radiation. Б-2 (B-2) instruments, a Т-25-БФЛ (T-25-BFL) end-window counter, and the "Флокс" (Floks) apparatus were used. The results are given in Table 2. There are 2 figures, 2 tables, and 19 references, 4

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Isolation of Weighable Quantities of Pure Protactinium 231

S/020/60/134/005/017/023
B016/B054

Soviet, 7 US, 1 French, 2 German, and 1 British.

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

SUBMITTED: June 22, 1960

Card 3/3

S/186/62/004/001/006/008
E075/E436

AUTHORS: D'yachkova, R.A., Spitsyn, Vikt.I., Nazarov, P.P.

TITLE: Separation of protoactinium from zirconium, titanium and niobium by a chromatographic method

PERIODICAL: Radiokhimiya, v.4, no.1, 1962, 89-94

TEXT: The authors investigated purification of protoactinium from the admixtures of niobium, titanium and zirconium using some anion-exchanger resins and MnO_2. The work was carried out with Pa^{233}. The resins used were АВ-16 (AV-16), АВ-17 (AV-17) and АН-2Ф (AN-2F) in the Cl^- form. Active MnO_2 was prepared by the generally accepted method described by Ye.V.Alekseyevskiy (Ref.12). The separations on the resins were carried out in hydrochloric acid solutions which were found to be the best for Dowex-1 resin (Ref.8). 7 N HCl containing 0.9 mg/ml Zr and also indicator quantities of Nb^{95} and Pa^{233} were passed through a column of 0.5 cm diameter, 9 cm high, filled with 40 to 60 mesh resin. Solution flow was 0.2 ml/cm^2/min. With resins AV-17 or AN-2F, it was possible to separate 85 to 90% of Zr, which appeared in the first portions of eluant. Nb appeared in the eluate only slightly

Card 1/2

Separation of protoactinium ...

before Pa. For resin AV-16, Nb and Pa were eluted almost at the same time. MnO_2 was tried next for the separation of Nb and Pa. The authors determined distribution coefficients of Nb and Pa between MnO_2 and 0.5 N NH_4F for a wide range of concentrations of hydroxyl ions. The distribution coefficients were found to depend on these concentrations. The dependence was not great at pH $<$ 3, but was marked for Nb at pH $>$ 4. Thus the use of concentrated NH_4F solution as an eluent at the pH of 5.2 gives a considerable degree of separation between Nb and Pa. 80% of Pa was eluted at the time of appearance of Nb in the eluate. It was found however, that an increase in temperature decreases the degree of separation. To decrease undesirable hydrolytic processes, the separation was carried out in the acid medium, although it was expected that in neutral solutions the separation would be more complete. The number of theoretical plates for the column and method used (0.5 N HNO_3 + 0.2 N NH_4F solution used as eluent, MnO_2 column height 35 cm, diameter 0.4 cm rate of flow of solution 0.1 ml/cm^2/min) was found to be 920 and the height equivalent to theoretical plate 0.38 mm. There are 6 figures and 2 tables.

SUBMITTED: February 22, 1961
Card 2/2

S/186/63/005/001/008/013
E075/E436

AUTHORS: D'yachkova, R.A., Spitsyn, Vikt. I.

TITLE: Concentration of protoactinium in meterials with a high content of silicic acid

PERIODICAL: Radiokhimiya, v.5, no.1, 1963, 106-110

TEXT: The coprecipitation of Pa with fluorides, the cations of which do not form difficultly soluble fluorosilicates, was studied to establish the possibility of separation of Pa in the form of fluoride complex from fluorosilicic acid. The effective carriers of Pa in the solutions are CaF_2, SrF_2 and PbF_2. When these precipitate in the amount of 1.5 to 2 mg/ml, 95 to 99% of Pa coprecipitates. However, the presence of fluorosilicic acid lowers the degree of the coprecipitation. The acid can be precipitated in the form of fluoro-silicates, the adsorption of Pa on them increasing in the order Na_2SiF_6, K_2SiF_6, $BaSiF_6$. For the separation of 100 to 200 g/litre of the latter two fluorosilicates, the losses of Pa are less than 8 to 12% and can be reduced to 4 to 7% by washing the precipitate with HF. Thus large quantities of fluorosilicic acid can be separated from solutions containing

Card 1/2

S/186/63/005/001/008/013
E075/E436

AUTHORS: D'yachkova, R.A., Spitsyn, Vikt. I.

TITLE: Concentration of protoactinium in meterials with a high content of silicic acid

PERIODICAL: Radiokhimiya, v.5, no.1, 1963, 106-110

TEXT: The coprecipitation of Pa with fluorides, the cations of which do not form difficultly soluble fluorosilicates, was studied to establish the possibility of separation of Pa in the form of fluoride complex from fluorosilicic acid. The effective carriers of Pa in the solutions are CaF_2, SrF_2 and PbF_2. When these precipitate in the amount of 1.5 to 2 mg/ml, 95 to 99% of Pa coprecipitates. However, the presence of fluorosilicic acid lowers the degree of the coprecipitation. The acid can be precipitated in the form of fluoro-silicates, the adsorption of Pa on them increasing in the order Na_2SiF_6, K_2SiF_6, $BaSiF_6$. For the separation of 100 to 200 g/litre of the latter two fluorosilicates, the losses of Pa are less than 8 to 12% and can be reduced to 4 to 7% by washing the precipitate with HF. Thus large quantities of fluorosilicic acid can be separated from solutions containing

APPROVED FOR RELEASE: 08/22/2000 CIA-RDP86-00513R000411710016-0"

SPITSYN, Vikt.I.; BALANDIN, A.A.; DOBROSEL'SKAYA, N.P.; D'YACHKOVA, R.A.

Catalytic dehydration of cyclohexanol over magnesium sulfate doped with protactinium-231. Izv. AN SSSR. Ser.khim. no. 3: 564-565 Mr '64. (MIRA 17:4)

1. Institut fizicheskoy khimii AN SSSR i Moskovskiy gosudarstvennyy universitet im. Lomonosova.

D'YACHKOVA, R.A.; SPITSYN, Vikt.I.

Extraction of n-benzoylphenylhydroxylaminates of protactinium, zirconium, and niobium from sulfuric acid solutions. Radiokhimiia 6 no. 1:102-104 '64. (MIRA 17:6)

ACCESSION NR: AP4015561 S/0089/64/016/002/0134/0137

AUTHORS: Spitsy*n, Vikt. I.; D'yachkova, R.A.

TITLE: Pa sup 231 concentration in uranium production waste

SOURCE: Atomnaya energiya, v. 16, no. 2, 1964, 134-137

TOPIC TAGS: protactinium, thorium, irradiated thorium, Pa sup 231, zirconium, cerium, niobium, tantalum, titanium, tetravalent manganese, sorbent , precipitation, amyl acetate, tributyl ester, protactinium salicylate

ABSTRACT: An intensive study of the protactinium chemistry has been largely stimulated by the fact that the Pa^{233} isotope is one of the links in the production of U^{233} from neutron-irradiated thorium. The long-lived natural Pa^{231} isotope produced by the U^{235} disintegration is most suitable for chemical investigation purposes. The equilibrium content of Pa^{231} in uranium minerals is extremely small, and does not exceed several hundredth parts of a gram per ton even in rich ores. This makes the protactinium concentration in certain

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ACCESSION NR: AP4015561

intermediate and waste products of uranium production more valuable than the rest of the uranium ore. The isolation of protactinium from nitric acid solutions included a study of the possible use of substances which had never been used as carriers of that element before, such as ion-exchange resin hypophosphate and certain oxides that are not easily soluble in nitric acid. Protactinium can be absorbed from nitric acid solutions by every tested sorbent. The introduction of extraneous salts into the solution sharply reduces the sorbents' capacity in regard to protactinium with the exception of manganese dioxide. The sorbtion of iron by manganese dioxide is considerably greater than the sorbtion of aluminum and calcium, particularly in low-acidity solutions. Orig. art. has: 1 figure and 7 tables.

ASSOCIATION: None

SUBMITTED: 19Jan63 DATE ACQ: 12Mar64 ENCL: 00

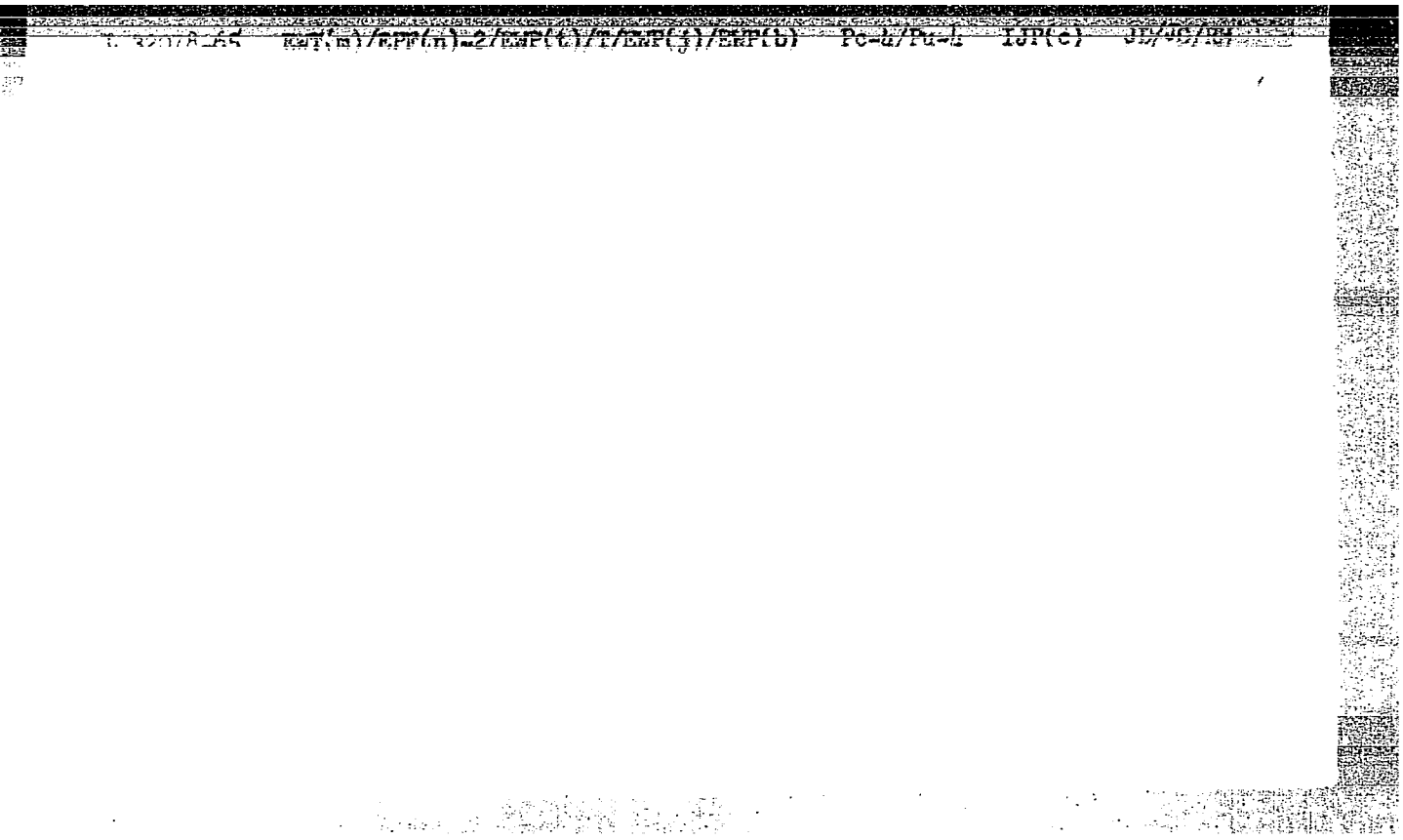
SUB CODE: EL, CH NO REF SOV: 004 OTHER: 005

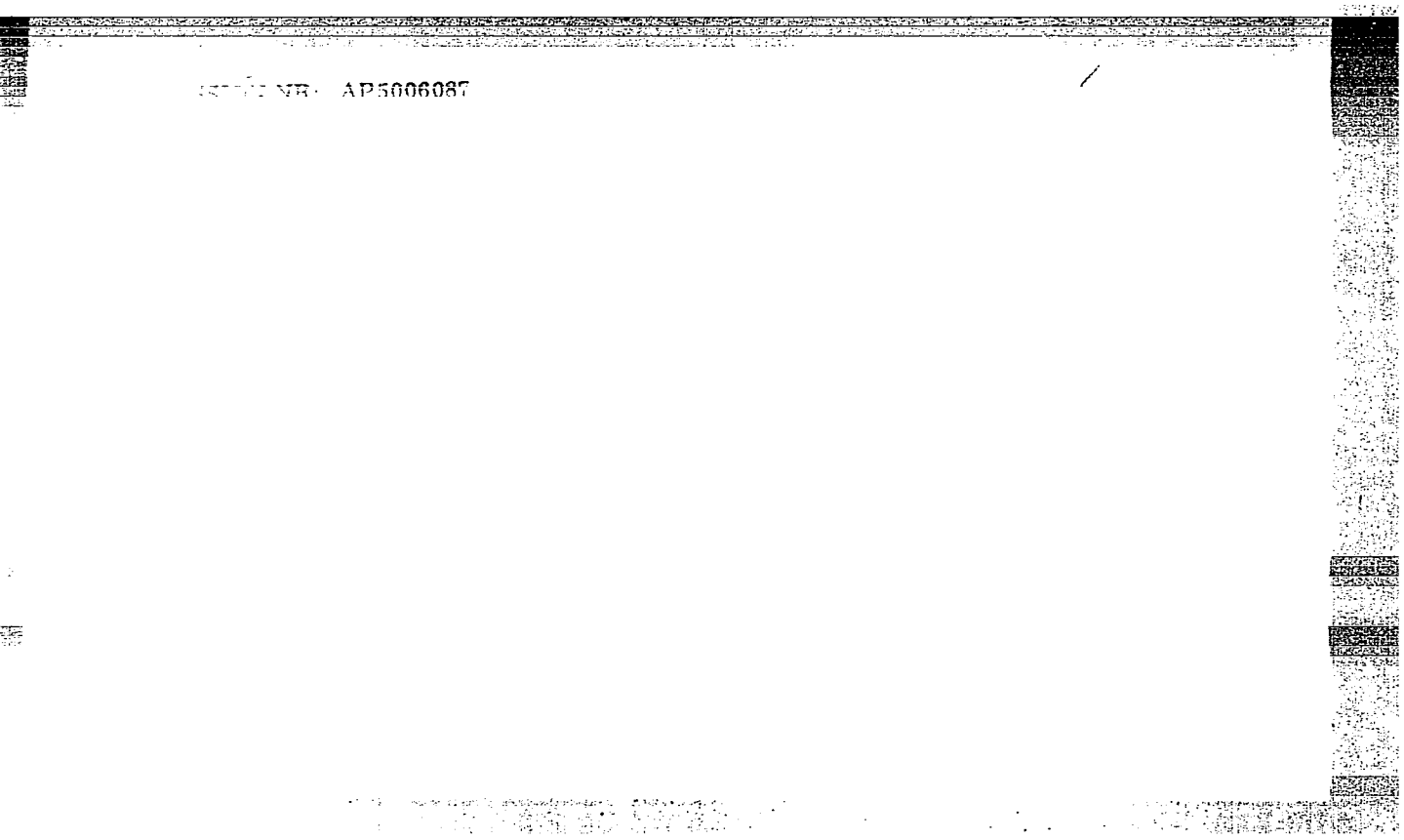
Card 2/2

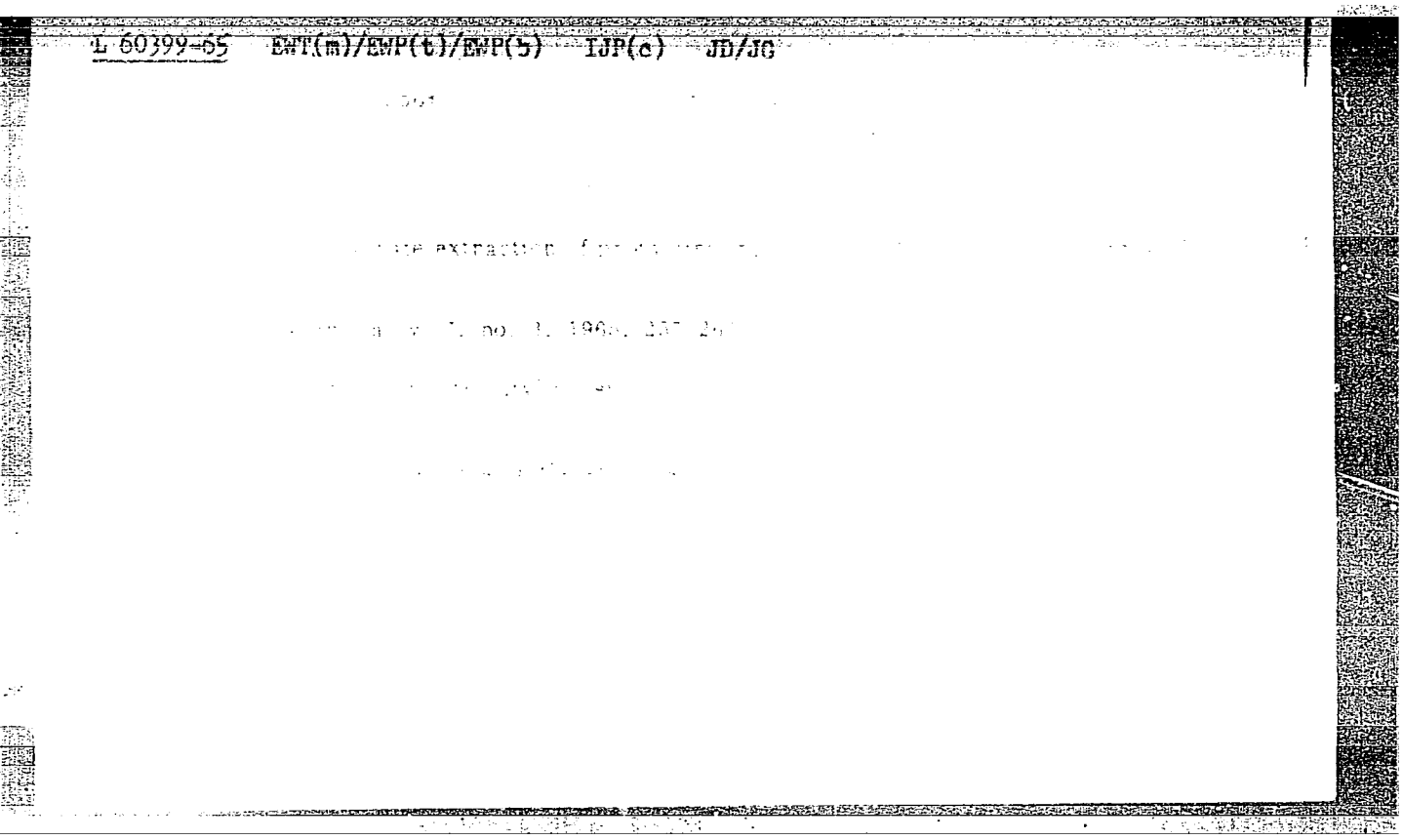
SPITSYN, Vikt.I., akademik; D'YACHKOVA, R.A.; KHLEBNIKOV, V.P.

State of protactinium in nitric acid solutions. Dokl. AN SSSR 157 no.1:135-138 Jl '64 (MIRA 17:8)

1. Institut fizicheskoy khimii AN SSSR.







L 60399-65

ACCESSION NR: AP5016097

L 60400-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG

ABSTRACT: The distribution ratio of protactinium was studied as a function of the tri-

L 69400-65

ACCESSION NR: AP5016998

L 39086-66 EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) RM/JD/JG

ACC NR: AP6022871 SOURCE CODE: UR/0186/66/008/002/0125/0131

AUTHOR: Khlebnikov, V. P.; D'yachkova, R. A.; Spitsyn, V. I.

ORG: none

TITLE: Extraction of protactinium with tributyl phosphate. Part 3: Determination of the composition and stability constants of nitrate complexes of protactinium

SOURCE: Radiokhimiya, v. 8, no. 2, 1966, 125-131

TOPIC TAGS: protactinium, nitrate, ~~extraction~~, distribution coefficient, stability constant, solvent extraction

ABSTRACT: In order to determine the composition and stability constants of nitrate complexes of protactinium, the dependence of the distribution coefficient was studied as a function of hydrogen ion and nitrate ion concentration during extraction of protactinium with tributyl phosphate. At a constant ionic strength of the aqueous phase $\mu = 5$ and 6 in the range of high acid concentrations (3-6 M), the distribution coefficient was shown to be proportional to the square of the hydrogen ion concentration. At the constant value $\mu = 5$, the distribution coefficient increases with the NO_3^- concentration. A mechanism is proposed for the reaction of extraction of protactinium with tributyl phosphate. The stability constants of the nitrate complexes $Pa(OH)_2(NO_3)^{2+}$, $Pa(OH)_2(NO_3)_2^+$, $Pa(OH)_2(NO_3)_3^0$, and $Pa(OH)_2(NO_3)_4^-$ were calculated to

Card 1/2 UDC: 542.61:546.796:54-145.4

L 39086-66

ACC NR: AP6022871

be respectively $\beta_1 = 17$, $\beta_2 = 1.3 \times 10^2$, $\beta_3 = 5.4 \times 10^2$, and $\beta_4 = 1.4 \times 10^3$. The equilibrium constant for the reaction of extraction of protactinium with tributyl phosphate was found to be $K = 5.4 \times 10^3$. Orig. art. has: 4 figures, 3 tables, and 12 formulas.

SUB CODE: 07/ SUBM DATE: 05Nov65/ ORIG REF: 012/ OTH REF: 009

Card 2/2 mjl

D'YACHKOVA, T.V.

AUTHORS: Mironova, Z. F., and D'yachkova, T. V. 54-4-11/20

TITLE: The Spectrophotometric Method of Measurement of the Albedo of Natural Bedding Surfaces (Spektrofotometricheskiy metod izmereniya al'bedo yestestvennykh podstilayushchikh poverkhnostey).

PERIODICAL: Vestnik Leningradskogo Universiteta Seriya Fiziki i Khimii, 1957, Vol. 22, Nr 4, pp. 89-92 (USSR).

ABSTRACT: The study has been carried out spectrophotometrically, as exacter results can be achieved than with the lightfilter method. Examined were the surfaces: of a wheat field, of green grass, of dried grass, of black smoke and of a snow field at wave lengths of 400-850 mμ. With the wheat field the absorption band of the chlorophyl (650-700 mμ) showed up, even better still with the green grass, whereas with hay and the black smoke the spectral albedo rose monotonously. The next task will be the examination of a bigger range of surfaces as well as the day's course of the spectral albedo.
There are 4 figures, and 11 references, 10 of which are Slavic.

SUBMITTED: March 29, 1956.

AVAILABLE: Library of Congress.

Card 1/1

D'YACHKOVA, T.V.

KUCHEROV, N.V

SOV/1755

PHASE I BOOK EXPLOITATION

Leningrad. Glavnaya geofizicheskaya observatoriya

Voprosy fiziki prizemnogo sloya vozdukha (Problems in the Physics of the Near-Surface Air Layer) Leningrad, Gidrometeoizdat, 1958, 182 p. (Series: Its: Trudy, vyp. 77) 1,500 copies printed.

Sponsoring Agency: USSR. Glavnoye upravleniye gidrometeorologicheskoy sluzhby

Ed. (title page): D.L. Laykhtman, Doctor of Physical and Mathematical Sciences; Ed. (inside book): Yu.V. Vlasova; Tech. Ed.: A.N. Sergeyev

PURPOSE: This collection of articles is intended for scientists interested in the processes that take place in the boundary layer of the atmosphere.

COVERAGE: This publication contains 13 articles dealing with the physical processes of near-surface air masses. The research work was done in 1956. The basic work is related to the formation of hoarfrost and fog and to the effect of the condensation processes on thermal conditions. Some articles deal with the methods for measuring and computing the main meteorologic features of the near surface air masses, others with the problem of atmospheric turbulence. The articles are elucidated with charts, diagrams, and tables.

Card 1/4

Card 3/4

D'YACHKOVA, T. V.

PAGE 1 BOOK EXPLOITATION SOV/5041

Leningrad. Glavnaya geofizicheskaya observatoriya

Voprosy fiziki prizemnogo sloya vozdukha (Problems in the Physics of the Near-Surface Air Layer). Leningrad, Gidrometeoizdat, 1960. 161 p. Errata slip inserted. 850 copies printed.

Sponsoring Agencies: Glavnaya geofizicheskaya observatoriya imeni A.I. Voyeykova; Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR.

Ed. (Title page): B.L. Laykhtman, Doctor of Physics and Mathematics; Ed. (Inside book): T.V. Vlasova; Tech. Ed.: E.F. Volkov.

PURPOSE: This publication is intended for meteorologists specializing in the lower layers of the atmosphere. It may also be of interest to agronomists, construction engineers, and other specialists whose activities are influenced by atmospheric conditions.

COVERAGE: This issue of the Transactions of the Main Geophysical Observatory contains 10 articles dealing mainly with problems of the physics of the near-surface air layer. Correlations between the surface wind and geostrophic wind are examined and the results of both theoretical calculations and experimental investigations given. Individual articles analyze the temperature regime of the active surface of soil and the factors determining the thermal conditions of the boundary layer. Results of fog investigation are presented in two articles. In addition, some problems of methods in the experimental investigation of the near-surface layer are elucidated. No personalities are mentioned. References follow each article.

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AVAILABLE: Library of Congress

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JA/bmc/afm
2/2/61

D'YACHKOVA, T.V.

Performance of the M-54 apparatus. Trudy GGO no. 112:169-175 '63. (MIRA 17:5)

D'YACHKOVA, T.V.

Calculating the heat influx into the soil by means of an M-54 apparatus. Trudy GGO no.160:99-102 '64. (MIRA 17:9)

L 14019-66 EWT(1)/FCC GW

ACC NR: AT6004190 (N) SOURCE CODE: UR/2531/65/000/174/0057/0061

AUTHOR: D'yachkova, T. V.; Kaulin, N. Ya.

36
B+1

ORG: none

12,44,55

TITLE: Effect of forced ventilation on the determination of temperature and humidity of air in a psychrometric cabin

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 174, 1965. Metodika meteorologicheskikh nablyudeniy i obrabotki (Methods of meteorological observation and processing observation data), 57-61

TOPIC TAGS: meteorological observation, temperature measurement, temperature inversion, air humidity, ventilation engineering

ABSTRACT: The authors evaluate an effect of forced ventilation in psychrometric cabins based on the accuracy of the temperature and air humidity measurements carried out in different regions. It is shown that the ventilation of psychrometric cabins in regions with relatively moderate air temperature and a low number of calm days has hardly any significant value. In regions with high temperatures, and weak winds, the ventilation of cabins will supposedly improve the observation of air temperatures and eliminate errors in determining air humidity caused by the application of standard psychrometric charts. Orig. art. has: 2 figures and 2 tables. [Based on author's abstract].

Card 1/2

2

L 14019-66
ACC NR: AT6004190

0

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS:

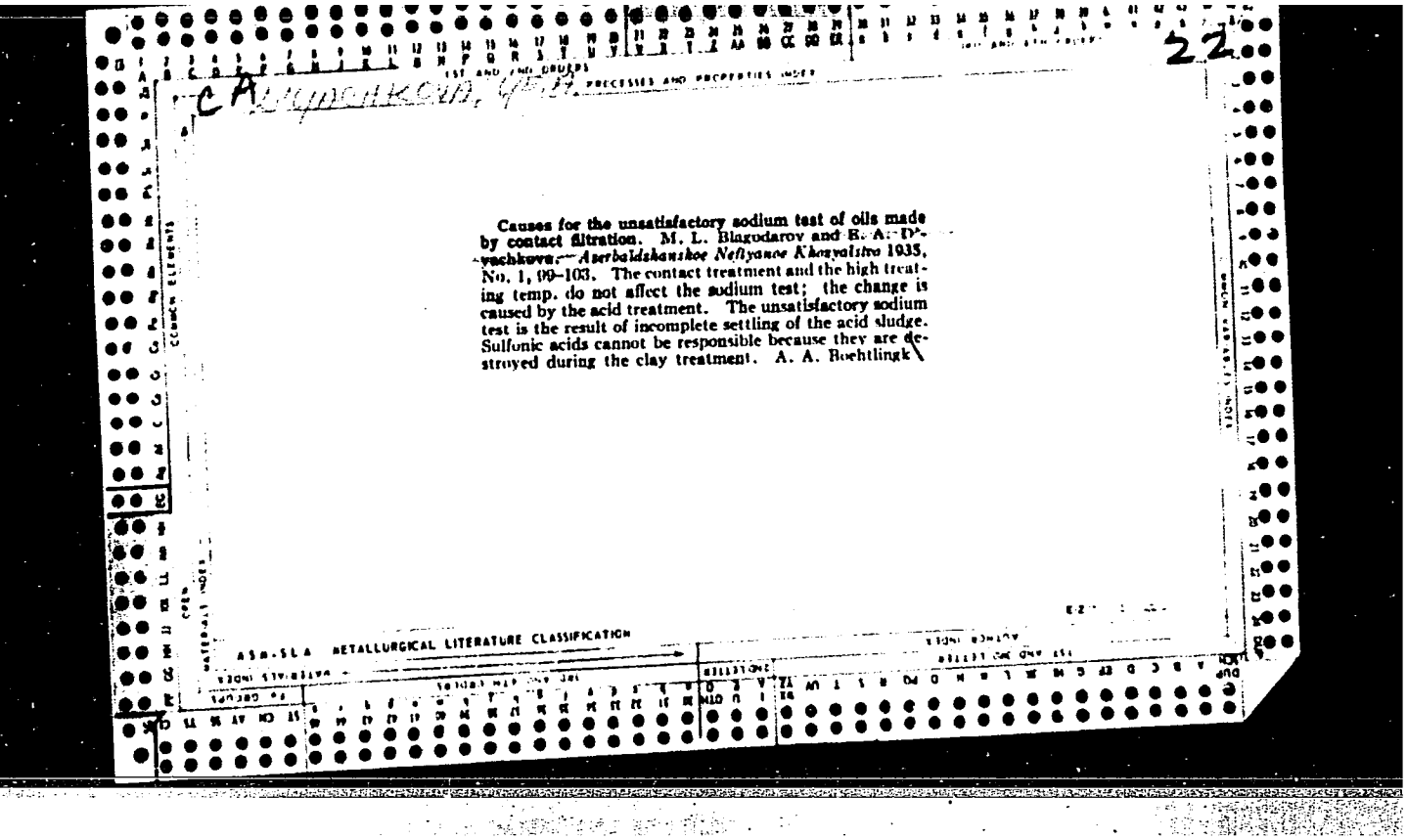
Card 2/2 SC

D'YACHKOVA, V.A.; KRAPIVINA, T.Ya.

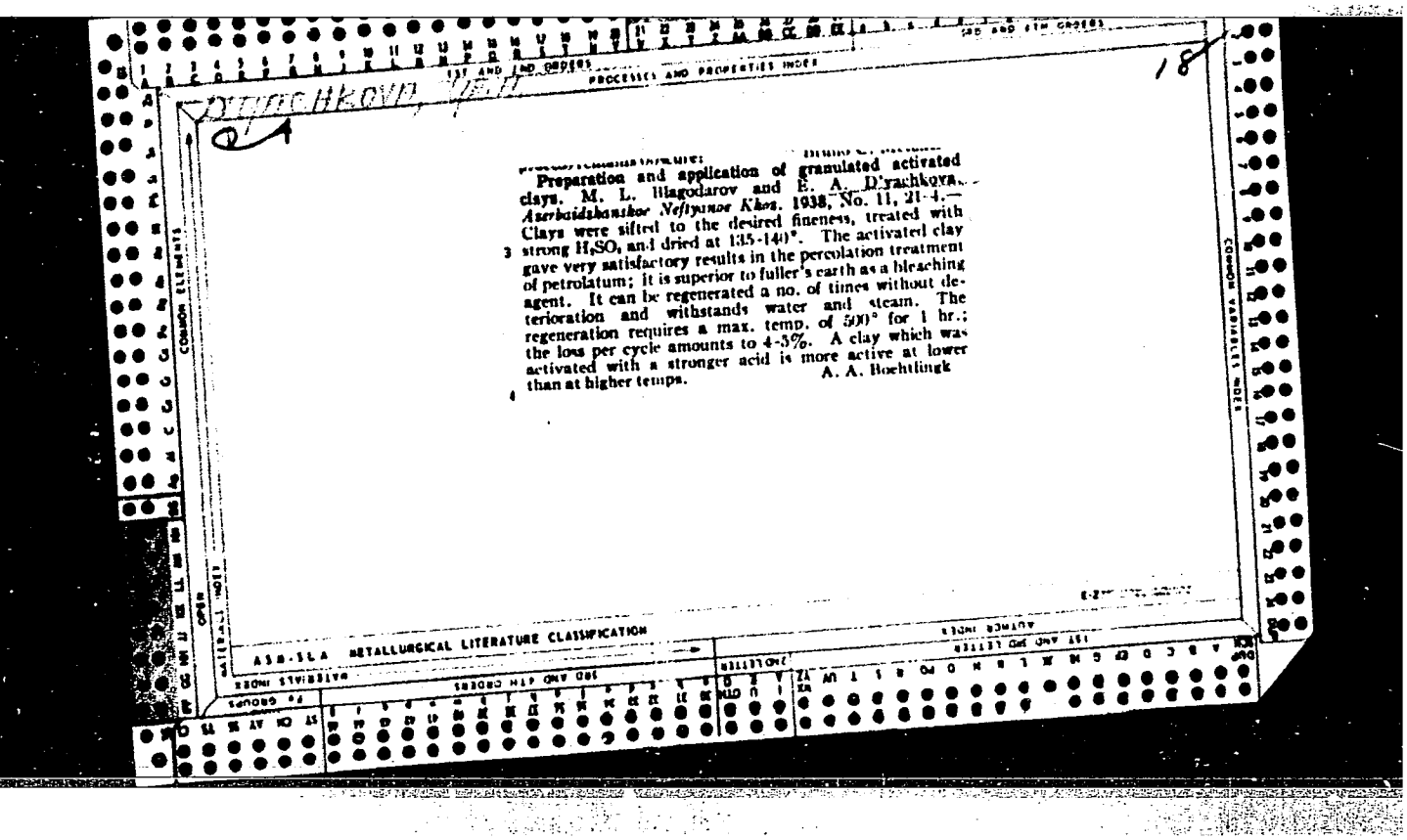
Use of modern methods of general anesthesia in gynecological operations. Kaz.med.zhur. no.4:38-40 Jl-Ag '62. (MIRA 15:8)

1. Akushersko-ginekologicheskaya klinika (zav. - prof. A.M.Foy) lechebnogo fakul'teta Saratovskogo meditsinskogo instituta i anesteziologicheskoye otdeleniye 1-y klinicheskoy bol'nitsy Saratova.

(ANESTHESIA) (GYNECOLOGY)



Causes for the unsatisfactory sodium test of oils made by contact filtration. M. L. Blagodarov and E. A. Dyachkova. *Azerbaidzhanskoe Neftyanoe Khozyaistvo* 1935, No. 1, 99–103. The contact treatment and the high treating temp. do not affect the sodium test; the change is caused by the acid treatment. The unsatisfactory sodium test is the result of incomplete settling of the acid sludge. Sulfonic acids cannot be responsible because they are destroyed during the clay treatment. A. A. Boehtlingk



Preparation and application of granulated activated clays. M. L. Blagodarov and E. A. D'yachkova. *Azerbaidzhanskoe Neftyanoe Khoz.* 1938, No. 11, 21-4.—Clays were sifted to the desired fineness, treated with strong H_2SO_4 and dried at 135-140°. The activated clay gave very satisfactory results in the percolation treatment of petrolatum; it is superior to fuller's earth as a bleaching agent. It can be regenerated a no. of times without deterioration and withstands water and steam. The regeneration requires a max. temp. of 500° for 1 hr.; the loss per cycle amounts to 4-5%. A clay which was activated with a stronger acid is more active at lower than at higher temps.

A. A. Boehtlingk

Ye. A. D'YACHKOVA

11(6) PHASE I BOOK EXPLOITATION SOV/5075

Akademiya nauk SSSR. Nekotoryye fizicheskiye i fiziko-
khimicheskiye svoystva, sostav i stroyeniye smol i asfal'tenov
[Materials on the Physical and Physicochemical Properties, Composition, and Structure of Resins and Asphaltenes] Moscow, Izd-vo AN SSSR, 1959. 376 p.
Errata slip inserted.
3,000 copies printed.

Editorial Board: R.D. Obolentsev (Resp. Ed.) Doctor of Chemical Sciences;
G.D. Gal'pern, Doctor of Chemical Sciences; Ye. B. Chertkov, Doctor of Technical
Sciences; T.V. Pasov, Candidate of Technical Sciences; and V.P. Pozdeyevnaliy,
Candidate of Chemical Sciences; Ed. of Publishing House: I.I. Rusakov;
Tech. Ed.: T.P. Polozova.

PURPOSE: This book is intended for chemists, chemical engineers, and technicians
specializing in the chemistry of petroleum.

COVERAGE: The book is a collection of papers presented at the Third Scientific
Session on the Chemistry of Organic Sulfur and Nitrogen Compounds Contained
in Petroleum and Petroleum Products. The scientific session was held in Ufa,
June 1-8, 1957. The book consists of six sections: 1) Synthesis, chemi-
cal conversion, and analysis of organic sulfur compounds; 2) Separation and
composition of organic sulfur compounds contained in petroleum and petroleum
products; 3) Transformation of organic sulfur compounds by thermal catalysis;
4) Corrosive properties of coal tar formation in sulfur-containing petroleum
and petroleum products; 5) Uses of organic sulfur compounds and hydrogen
sulfide; 6) Physiological properties of organic sulfur compounds. No personali-
ties are mentioned. There are 315 references, of which 179 are Soviet,
118 English, 5 French, 12 German, and 1 Czech.

TABLE OF CONTENTS

Chemistry of Sulphur Organic Compounds (Cont.) SOV/5075

Card 3/10

LOSEVA, A.G.; KHAZENSON, L.B.; D'YACHKOVA, Ye.A.; MONOSOVA, S.M.

Closed outbreak of diseases caused by enteropathogenic Eschirichia coli of the serological type O111. Trudy Len. inst. epid. i mikrobiol. 21:33-39'60. (MIRA 16:6)

1. Iz kafedry pediatrii I Leningradskogo meditsinskogo instituta, sektora epidemiologii i laboratorii kishechnykh infektsiy Lenintradskogo instituta epidemiologii, mikrobiologii i gigiyeny imeni Pastera, Pervoy Leningradskoy detskoy bol'nitsy i Sanitarno-epidemiologicheskoy stantsii Oktyabr'skogo rayona Leningrada.
(LENINGRAD--ESCHERICHIA COLI)
(LENINGRAD--INTESTINES--DISEASES)

S/081/61/000/022/059/076
B101/B147

AUTHORS: Sanin, P. I., D'yachkova, Ye. A., Komissarova, N. I.

TITLE: Separation of sulfurous compounds from aromatic hydrocarbons by adsorption chromatography

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 393, abstract 22M84 (Sb. "Khimiya seraorgan. soyedineniy, soderzhashchikhsya v neftyakh i nefteproduktakh". M., AN SSSR, 1959, 125-138)

TEXT: Comparative studies of adsorbents of the metal silicate type were carried out with a view to separating aromatic and S compounds contained in the oil fraction (325-375°C) of the Romashki petroleum. Chromium silicate was found to be the best adsorbent. Chromium silicate enabled adsorption-chromatographic separation of that part of the light monocyclic aromatics containing 0.05% sulfur (approximately 0.4% of the S compounds) from aromatics and S compounds of the above-mentioned oil fraction (3.9% sulfur). Chromium silicate is described to have a catalytic effect on S compounds of this oil fraction. [Abstracter's note: Complete translation.]

Card 1/1

ROBINZON, Ye.A.; D'YACHKOVA, Ye.A.; KOMISSAROVA, N.I.; GAREVSKAYA, G.S.; SANIN, P.I.

Use of the oxidation method for determining the structure of aromatic hydrocarbons from petroleum fractions. Neftekhimiia 3 no.4:598-608 Jl-Ag '63. (MIRA 16:11)

1. Institut neftekhimicheskogo sinteza AN SSSR imeni A.V. Topchiyeva.

D'YACHKOVA Z.S.

OL'KHOVSKIY, I.A.; D'YACHKOVA, Z.S.; SHVARTSMAN, I.Sh.; PROKOP'YEVA, A.M.; RUBSHTEYN, Ya.I.

Increasing the stability of stoppers for pouring electrical steel. Ogneupory 22 no.11:520-523 '57. (MIRA 11:1)

1. Ural'skoye otdeleniye Leningradskogo instituta ogneuporov (for Ol'khovskiy, D'yachkova, Shvartsman). 2. Verkh-Isetskiy metallurgicheskiy zavod (for Prokop'yeva, Rubshteyn).
(Refractory materials)
(Smelting--Equipment and supplies)

D'YACHKOVA, E.S.

AUTHORS: D'yachkov, I. N., D'yachkova, Z. S. SOV/131-58-10-2/11

TITLE: Magnesite-Chromite Products for the Vacuum Treatment of Transformer Steel in Teeming Ladles (Magnezitokhromitovyye izdeliya dlya vakuumirovaniya transformatornoy stali v kovshe)

PERIODICAL: Ogneupory, 1958, Nr 10, pp. 440-444 (USSR)

ABSTRACT: In tests in which Yu.F. Mikhaylov participated (Ref 1), it was discovered that magnesite-chromite bricks displayed the greatest stability under the influence of slag (Fig 1). The chemical composition of the raw materials is quoted in table 1 and the composition of the layers in table 2. In figure 2 the specific gravity of the samples with an addition of clay are indicated and in figure 3 their permeability for gases. Figure 4 shows their resistance to pressure. In the plant "Magnezit" a series of sample stoppers (stopornyye trubki) were made of magnesite-chromite, whose composition is given in table 3. In table 4 the properties of these stoppers are listed. The condition of magnesite-chromite stoppers after treatment is shown for burned stoppers in figure 5 and in figure 6 for stoppers that were not burned. Conclusion:

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unburnt magnesite-chromite material showed a satisfactory heat resistance when the samples were quickly heated up to 1680°; the necessary density of the stoppers could not be achieved through pneumatic stamping. In the vacuum treatment in the ladle the burnt stoppers guaranteed an endurance period of 25 minutes at temperatures up to 1660°. Magnesite-chromite bricks performed satisfactorily in vacuum in the ladle. According to data of the zavodskaya laboratoriya Verkh-Isetskogo zavoda i Ural'skogo instituta chernykh metallov (Laboratory of the Verkh-Isetsk Plant and the Ural Institute for Ferrous Metals) the use of refractory magnesite-chromite products for the vacuum treatment in the teeming ladle has brought about good results with respect to the properties of the transformer steel.
There are 6 figures, 4 tables, and 5 references which are Soviet.

Magnesite-Chromite Products for the Vacuum Treatment of Transformer Steel in Teeming Ladles SOV/131-58-10-2/11

ASSOCIATION: Ural'skoye otdeleniye Leningradskogo instituta ogneuporov (Ural Branch of the Leningrad Institute for Refractory Products)

Card 3/3

BRODETSKIY, G.G.; LANDE, P.A.; D'YACHKOVA, Z.S.; MIKHAYLOV, Yu.F.

Ladle brick and stop pipes made of dressed Kyshtym kaolin.
Ogneupory 25 no.10:443-448 '60. (MIRA 13:10)

1. Chelyabinskiy metallurgicheskiy zavod (for Brodetskiy, Lande).
2. Vostochnyy institut ogneuporov (for D'yachkova, Mikhaylov).
(Steelworks--Equipment and supplies)
(Kaolin)

D'YACHKOVA, Z. S.; DUVALOVA, I. P.

Refractories of clays from the group of Barzas deposits in Kemerovo Province. Trudy Vost. inst. ogneup. no.2:45-58 '60. (MIRA 16:1)

(Barzas region--Fireclay)
(Refractory materials)

S/131/61/000/010/001/004
B130/B101

AUTHORS: D'yachkova, Z. S., Kelarev, N. V., and Lande, P. A.

TITLE: Refractory materials from kaolin of the poletayevskoye deposit

PERIODICAL: Ogneupory, no. 10, 1961, 458 - 461

TEXT: Kaolin of the poletayevskoye deposit near Chelyabinsk was tested as to its suitability for the production of refractory materials. 410 t of kaolin was mined for this purpose by the Miasskaya kompleksnaya geologo-razvedochnaya partiya (Miass Comprehensive Group of Geological Exploration). The following properties of the kaolin were determined: 53 - 81% silicic acid, mostly >70%; 16 - 32% Al_2O_3; 0.2 - 3.56% Fe_2O_3. Heat resistance lies between 1630 and 1760°C. The kaolin can easily be concentrated by the wet process. In the concentrated kaolin, three types are distinguished: noncaking, light-colored (60%), caking (30%), and non-caking containing quartz (10 - 15%). The kaolin is coarsely disperse; the sum of fractions below 5μ amounts to 57.1%. Concentrated kaolin cakes between 1500 and 1550°C. The kaolin was concentrated at the

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Refractory materials from...

Kyshtymskiy grafito-kaolinovyy kombinat (Kyshtym Graphite and Kaolin Combine); its yield was 45%. Its composition related to fired material was: 53.8% SiO_2, 43.1% Al_2O_3, 0.9% TiO_2, 2.1% Fe_2O_3. An experimental batch was produced at the ogneupornyy tsekh Chelyabinskogo metallurgicheskogo zavoda (Workshop of Refractory Materials of the Chelyabinsk Metallurgical Plant). The kaolin was fired as a mixture with 20% Buskul'skaya clay. The composition of the clay (related to fired material) was: Al_2O_3 + TiO_2 31.9%, Fe_2O_3 2.65%, other substances 11.25%, refractoriness up to 1680°C. The briquets were fired at 1400 - 1420°C for 6 - 8 hr. Crushing, milling, preparation and mixing was done by the usual procedure. The products were made from a mass prepared by semi-dry pressing or plastic forming. A binder of 50% clay and 50% kaolin was used for products from pressed mass, one of 75% clay and 25% kaolin for those from plastically formed mass. The products were dried in tunnel kilns; those made from semi-dry pressed mass were subsequently fired at 1340 - 1360°C, those from plastically formed mass at 1270 - 1300°C. The products corresponded to class B (ladle bricks type ПП (P) and П5 (P5) according to ГОСТ5341-58 (GOST5341-58), stop pipes type СП-8 (SP-8), and siphons

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Refractory materials from...

C-34 (S-34) according to GOST 4978-49. If the chamotte is fired in a rotary furnace and the specific molding pressure is increased, the concentrated kaolin may be used for the production of materials of class A. M. I. Loseva assisted in testing the kaolin, Yu. A. Avvakumov and Yu. F. Mikhaylov in its concentration, G. G. Brodetskiy, A. A. Yakovlev, A. I. Terekhin, M. A. Pshenichnikov, A. I. Baklemysheva, N. A. Kotova, I. M. Mekhrenina and N. D. Karpova in preparing the products. There are 4 tables and 7 Soviet references.

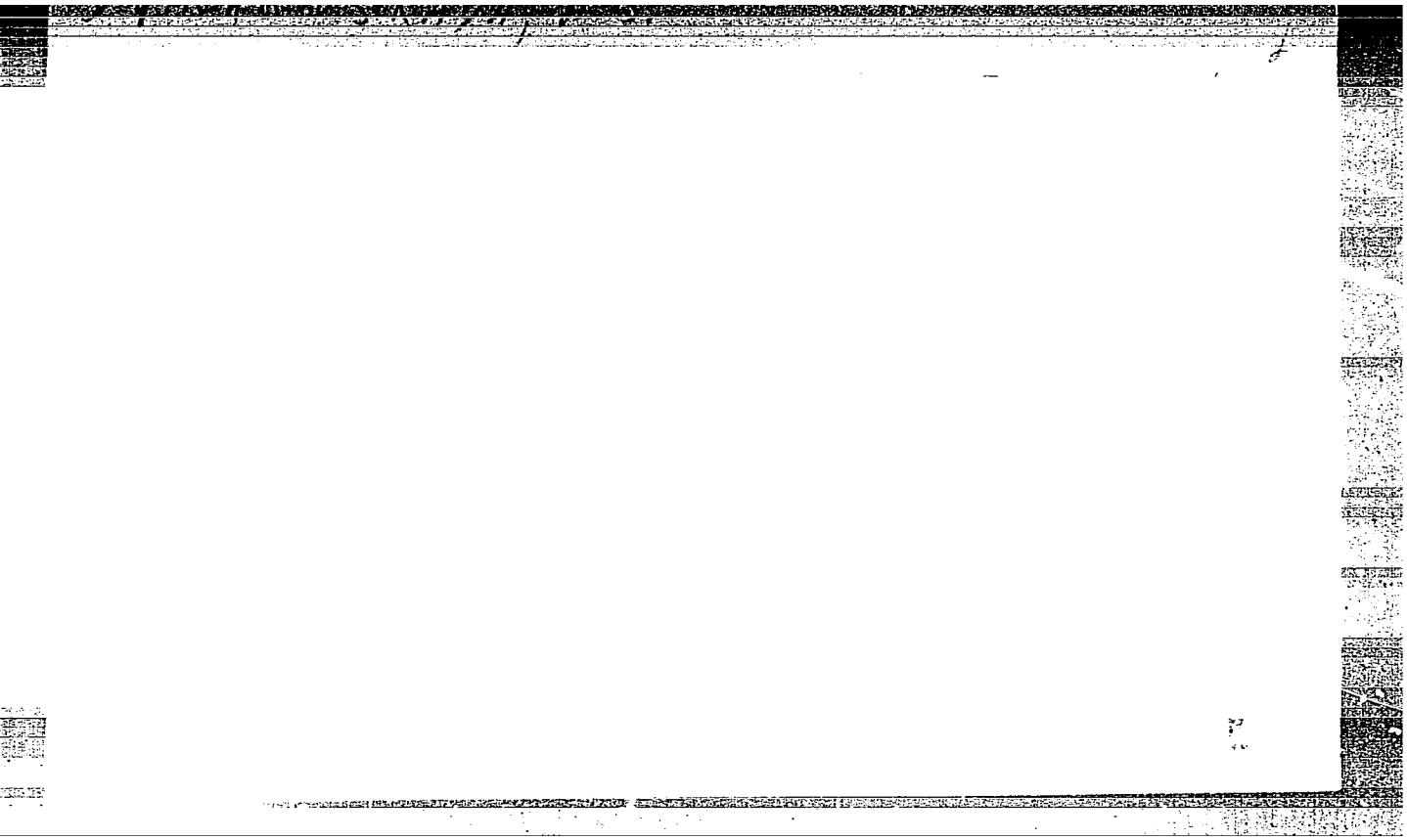
ASSOCIATION: Vostochnyy institut ogneuporov (Eastern Institute of Refractory Materials) (Z. S. D'yachkova, N. V. Kelarev); Chelyabinskiy metallurgicheskiy zavod (Chelyabinsk Metallurgical Plant) (P. A. Lande)

Card 3/3

STRELOV, K.K.; MAMYKIN, P.S.; Prinimali uchastiye: BAS'YAS, I.P.; BICHURINA, A.A.; BRON, V.A.; VECHER, N.A.; VOROB'YEVA, K.V.; D'YACHKOVA, Z.S.; D'YACHKOV, P.N.; DVORKIND, M.M.; IGNATOVA, T.S.; KAYBICHEVA, M.N.; KELAREV, N.V.; KOSOLAPOV, Ye.F.; MAR'YEVICH, N.I.; MIKHAYLOV, Yu.F.; SEMKINA, N.V.; STARTSEV, D.A.; SYREYSHCHIKOV, Yu.Ye.; TARNOVSKIY, G.I.; FLYAGIN, V.G.; FREYDENBERG, A.S.; KHOROSHAVIN, L.B.; CHUBUKOV, M.F.; SHVARTSMAN, I.Sh.; SHCHETNIKOVA, I.L.

Institutes and enterprises. Ogneupory 27 no.11:499-501 '62. (MIRA 15:11)

1. Vostochnyy institut ogneuporov (for Strelov). 2. Ural'skiy politekhnicheskiy institut im. S.M. Kirova (for Mamykin).
(Refractory materials--Research)



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DREKOV, G.A.; D'YACHKOVSKAYA, M.I.

Method for the aspiration of blood plasma into a flask and its freezing and placing in a drying apparatus. Probl. gemat. i perel. krovi 5 no. 11:55-56 '60. (MIRA 14:1)
(BLOOD--COLLECTION AND PRESERVATION)

D'YACHKOVSKAYA, O.S.

USSR/Organic Chemistry - Synthetic Organic Chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4463

Author : Razuvayev, G.A., D'yachkovskaya, O.S.
Title : Reaction of Tetrasubstituted Silanes with Carbon Tetrachloride.

Orig Pub : Zh. obshch. khimii, 1956, 26, No 4, 1107-1110

Abstract : Photoreaction of CCl_4 with $(C_2H_5)_4Si$ (160 hours, 35-40°) proceeds over chlorination without removal of radical, and the formation of $CH_3CHClSi(C_2H_5)_3$. If in lieu of irradiation with ultraviolet light the reaction is initiated with acetyl peroxide at the temperature of boiling of CCl_4, there is formed a mixture of alpha- and beta-chlorethyl-triethylsilanes, HCl, C_2Cl_6 and $CHCl_3$. Benzoyl peroxide does not initiate this reaction. On action of ultraviolet radiations on a mixture of alpha- and beta-chlorethyl-triethylsilanes, it is essentially the beta-isomer that undergoes decomposition.

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USSR/Organic Chemistry - Synthetic Organic Chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4463

$CH_3Si(C_6H_5)_3$ and $(C_6H_5)_4Si$ do not react with CCl_4 on exposure to ultraviolet radiation.

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80486
S/020/60/132/02/33/067
B011/B002

5.3700(B)

AUTHORS: Razuvayev, G. A., Corresponding Member AS USSR, Vyazankin, N. S., Dergunov, Yu. I., D'yachkovskaya, O. S.

TITLE: Some Cases of Reactions for the Redistribution of Radicals in Organic Lead, Tin, and Silicon Compounds

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 2, pp. 364-366

TEXT: Heating of an asymmetric organometallic compound of type $R_3R'Pb$ with catalytic amounts of aluminum chloride, causes the redistribution of the radicals (Ref. 1). A dynamic equilibrium, and a mixture of all possible combinations of tetraalkyl derivatives of the concerned metal develop. The authors intended to investigate such cases of the above reaction in which the equilibrium is disturbed, thus causing a clear deviation of the interrelations between the reaction products from those occurring in general. The authors found out that hexaethyl dimetals are asymmetric, as for instance $(C_2H_5)_3SnR$, R being $(C_2H_5)_3Sn$. Assuming that the two radicals readily take part in their redistribution, the following mixture necessarily must develop (according to publications):

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$(C_2H_5)_4Sn$ (I), $(C_2H_5)_3SnR$ (II), $(C_2H_5)_2SnR_2$ (III), $C_2H_5SnR_3$ (IV), and SnR_4 (V). However, there will be no equilibrium in the developing mixture since (III), (IV), and (V) are no "symmetrical" compounds. Theoretically it is therefore probable that (III) - (V) will enter into side reactions during the redistribution of radicals, and besides tetraethyl tin will develop a series of substances with chains of metal atoms still longer and more ramified. Due to the decomposition of molecules, there will be no equilibrium in the mixture (I) - (V). In agreement with the above theory, the authors found out that 2-3 weight% of aluminum chloride or other catalysts of the radical redistribution, rapidly reduce the stability of hexaethyl diplumbane and hexaethyl distannane, also altering its decomposition mechanism (equations (B) and (V)). It was spectroscopically proven however, that the decomposition of these two compounds takes place according to equation (B) developing an intermediate product of diethyl lead, and diethyl tin respectively. During the disproportionation of hexaethyl distannane (but not of hexaethyl diplumbane) however, highly-molecular intermediate products develop between 70°-75° under the influence of $AlCl_3$. This is in agreement with the above-mentioned reaction mechanism. In this case the equilibrium is disturbed by the participation of reaction products in

Some Cases of Reactions for the Redistribution of Radicals in Organic Lead, Tin, and Silicon Compounds

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side processes. This causes the formation of unstable products. The authors give further examples of publications on their statement (Refs. 3-8). The reaction between isopropylchloride and tetraethyl lead was not successful. Table 1 gives a summary of the authors' experiments. There are 1 table and 8 references, 2 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N. I. Lobachevskogo (Scientific Research Institute of Chemistry of the Gor'kiy State University imeni N. I. Lobachevskiy)

SUBMITTED: February 15, 1960

Card 3/3

31196

5.3700

S/079/61/031/012/010/011
D204/D301

AUTHORS: Razuvayev, G. A., Vyazankin, N. S., D'yachkovskaya, O.S., Kiseleva, I. G., and Dergunov, Yu. I.

TITLE: Certain reactions of the organometallic compounds of Group IV elements, catalyzed by aluminum chloride

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 12, 1961, 4056

TEXT: A continuation of previous work, in which it has been shown that $(Et)_3$ SiCl and $(Et)_3$ SnCl could be obtained in high yields by the action of iso-C_3H_7Cl n $(Et)_4Si$ and $(Et)_4Sn$ in presence of $AlCl_3$. This reaction has been used in the present work to synthesize $(Et)_5Si_2Br$ and compounds $(Et)_3MX$, where M = Si, Ge, Sn and X = Cl, Br, in 60-90% yields. These were prepared by the dropwise addition of equimolar quantities of iso-C_3H_7X to $(Et)_4M$ containing ~2% $AlCl_3$ and heating until the gaseous products were evolved (~4

Card 1/2

hours). $(Et)_5Si_2Br$ was converted to decaethyl tetrasilane (b.p. 164-170°C/1 mm Hg, n_D^{20} = 1.5160) by the action of highly dispersed fused Na, in 20.2% yield. It was also established that compounds of type $(Et)_6M_2$, where M = Si, [redacted] disproportionate to $(Et)_4M$ and M, on heating to 235°C in the presence of 3 - 5% $AlCl_3$. There are 1 table and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: H. Gilman, R. K. Ingham and A. G. Smith, J. Org. Ch., 18, 1743, (1953).

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'-kovskom gosudarstvennom universitete imeni N. I. Lo-bacheskogo (Scientific Research Institute of Chemistry, Gor'kiy State University im. N. I. Lobacheskiy)

SUBMITTED: July 3, 1961

21570
S/020/61/137/003/022/030
B103/B208

5.3700 2209

AUTHORS: Razuvayev, G. A., Corresponding Member AS USSR, D'yachkovskaya, O. S., Vyazankin, N. S., and Shchepetkova, O. A.

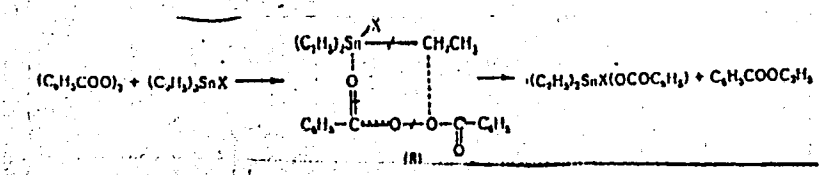
TITLE: Reactions of acyl peroxides with organic derivatives of lead, tin, and silicon

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 3, 1961, 618-621

TEXT: The authors discuss and compare the reactions of benzoyl peroxide (BP) and acetylbenzoyl peroxide (ABP) with organic derivatives of tin, lead, and silicon without solvent and under exclusion of atmospheric oxygen. They believe that the σ-bond may be ruptured at the same time according to two mechanisms in the case of the organotin compound: 1) via formation of an active complex, 2) via formation of kinetically independent particles. In this way, the number of end products increases. As the reactions discussed (Table 1) take place only at elevated temperatures, the authors assume that these reactions may be due to decomposition of peroxides: $C_6H_5COOOCOR \rightarrow C_6H_5COO\cdot + RCOO\cdot$ (1), where R = C_6H_5 or CH_3;

$C_6H_5COO\cdot \rightarrow C_6H_5\cdot + CO_2$ (2). The latter, however, is of minor importance. The resultant free benzoyloxy radicals react with organotin compounds, with substitution of benzoate radicals for the ethyl radicals in the latter: $C_6H_5COO\cdot + (C_2H_5)_3SnX \rightarrow (C_2H_5)_2SnX(OCOC_6H_5) + C_2H_5\cdot$ (3). Here and henceforward, X = C_2H_5, Cl, Br, C_6H_5COO. The results of experiments 1-4 indicate that the nature of X affects the course of (3) only little. In the case X = Cl and Br, the authors isolated only diethyl tin dibenzoate and diethyl tin dihalide, apparently owing to disproportionation: $2(C_2H_5)_2SnX(OCOC_6H_5) \rightarrow (C_2H_5)_2SnX_2 + (C_2H_5)Sn(OCOC_6H_5)_2$ (4). The free ethyl radicals resulting in (3) disproportionate and are slightly dimerized: $2C_2H_5\cdot \rightarrow C_2H_6 + C_2H_4$ (5); $2C_2H_5\cdot \rightarrow n\text{-}C_4H_{10}$ (6). The low total amount of gaseous hydrocarbons (less than 1 mole per mole of decomposed peroxide; experiments 1-4) suggests that the ethyl radicals initiate PB decomposition and give ethyl benzoate (experiment 4). In this way, the authors explain the formation of all products confirmed on the basis of a scheme of free-radical interaction. As, however,

ethylbenzoate may likewise be formed by a reaction with the active complex



(8),

the authors studied the interaction of ABP with tetraethyl tin and triethyl tin chloride (experiments 5 and 6). They conclude from the resultant reaction products that in this case the afore-mentioned modes (1 and 2) of homolytic rupture of the covalent bond occurred. The reaction of BP with tetraethyl lead (experiment 7) does not essentially differ from the one discussed above. Here, (2) is almost insignificant. The reaction of acyl peroxides with tetraethyl silane (experiments 6 and 9) proceeds quite differently; here, processes of the kind of (3) and (8) are missing, the Si-C bond being obviously stable to homolytic rupture. The initial stage of these reactions is assumed to be based upon decomposition of acyl peroxides according to (1), (2), and $CH_3COO\cdot \rightarrow CH_3\cdot + CO_2$ (9).

Reactions of acyl peroxides ...

The resultant free radicals remove the hydrogen from the tetraethyl silane molecules to give benzoic acid, benzene, and methane. Complex organosilicon compounds with two or more silicon atoms in the molecule are formed by recombination of the secondary radicals. They will be later described. $C_{16}H_{38}Si_2$ is given as an example. The reactions of similar organotin and organosilicon compounds with peroxides being considerably different, the authors studied the interaction of BP with the organotin analog of trimethyl-phenyl silane (experiment 10). No gaseous hydrocarbons were formed in this case and CO_2 yield was low. The authors conclude from this that (2) is only a side reaction, and that no CH_3 radicals are displaced by benzoate radicals in this case. Trimethyl tin benzoate, on the other hand, is obtained in a high yield: $(CH_3)_3SnOH + C_6H_5COOH \longrightarrow$ $\longrightarrow (CH_3)_3SnOCOC_6H_5 + H_2O$ (10). This indicates that the σ bond between the benzene ring and the metal atom in the trimethyl-phenyl tin molecule is most strongly subjected to homolytic cleavage. Since only 0.1 mole of diphenyl per mole of decomposed peroxide is formed, no analogy with the interactions between BP and trimethyl silane has been

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established. In the reaction of BP with triethyl silane (experiment 11), mainly the Si-H bond is cleft, giving triethyl silicon benzoate as the most important silicon-containing product. In this case, apparently also processes take place which remind of (3), since small quantities of ethane, ethylene, and butane result. The authors continue their studies. There are 1 table and 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: Ref. 1, L. Jaffe, E. J. Prosen, M. Szwarc, J. Chem. Phys., 27, 416 (1957).

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N. I. Lobachevskogo (Scientific Research Institute of Chemistry, Gor'kiy State University imeni N. I. Lobachevskiy)

SUBMITTED: November 9, 1960

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Reactions of acyl peroxides ...

Legend to Table 1: 1) number of experiment, 2) used, moles (ПБ - benzoyl peroxide, ПАБ - acetyl benzoyl peroxide), 3) temperature, °C; 4) time, hr; 5) reaction products, moles per mole of peroxide; 6) other products; 7) trace amounts.

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Table 1

Реакция перекиси бензоила (ПБ) и ацетил-бензоила (ПАБ) с органическими произ

① № опыта	② Взято в реакцию, молей	③ Т-ра, °С	④ Продолж., час.	⑤ Продукты				
				CO_2	CH_4	C_2H_6	C_3H_6	$н\text{-}C_4H_{10}$
1	0,010 ПБ; 0,20 $(C_2H_5)_4Sn$	95—97	16	0,20	—	0,26	0,55	0,02
2	0,015 ПБ; 0,15 $(C_2H_5)_3SnCl$	95—97	16	0,14	—	0,45	0,97	0,01
3	0,015 ПБ; 0,10 $(C_2H_5)_3SnBr$	95—97	16	0,15	—	0,44	0,24	0,01
4	0,010 ПБ; 0,014 $(C_2H_5)_3Sn\,OCOC_6H_5$	95—97	16	0,06	—	0,29	0,16	—
5	0,015 ПАБ; 0,23 $(C_2H_5)_4Sn$	80—97	5,5	0,61	0,48	0,13	0,54	0,02
6	0,010 ПАБ; 0,16 $(C_2H_5)_3SnCl$	80—97	4	0,58	0,42	0,38	0,40	0,02
7	0,005 ПБ; 0,10 $(C_2H_5)_4Pb$	80	3,5	0,04	—	0,92	0,38	0,26
8	0,010 ПБ; 0,17 $(C_2H_5)_4Si$	95—97	16	1,18	—	—	—	—
9	0,0125 ПАБ; 0,20 $(C_2H_5)_4Si$	80—97	8	1,34	0,82	—	—	—
10	0,010 ПБ; 0,10 $(CH_3)_3\,SnC_6H_5$	95—97	16	0,12	—	—	—	—
11	0,015 ПБ; 0,20 $(C_2H_5)_3SiH$	95—97	16	0,63	—	0,07	0,08	следы ⑦

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Table 1 Cont.

Таблица 1

водными Pb, Sn и Si в отсутствие кислорода воздуха

реакции (¹), молей на 1 моль перекиси	⑥ другие продукты
0,60	$(C_2H_5)_4Sn$ $OCOC_6H_5$; 0,37 $(C_2H_5)_3$ Sn $(OCOC_6H_5)_2$[5]
0,76	$(C_2H_5)_3Sn$ $(OCOC_6H_5)_2$[5]; 0,63 $(C_2H_5)_2$ $SnCl_2$
0,71	$(C_2H_5)_3Sn$ $(OCOC_6H_5)_2$[5]; 0,50 $(C_2H_5)_2$ $SnBr_2$
0,50	$(C_2H_5)_3Sn$ $(OCOC_6H_5)_2$[5]; 0,29 C_6H_5 $COOC_2H_5$
0,42	$(C_2H_5)_3Sn$ $OCOCH_3$; 0,43 $(C_2H_5)_3Sn$ $OCCO_2H_5$
0,84	$(C_2H_5)_2Sn$ $(OCOC_6H_5)_2$[5]; 0,31 $(C_2H_5)_2$ $SnCl_2$[5]
0,60	$(C_2H_5)_3$ $PbOCOC_6H_5$
0,00	C_6H_6; 0,53 C_6H_5COOH; 0,33 $C_{14}H_{34}Si_2$[5]
0,78	C_6H_6; 0,23 C_6H_5COOH; 0,33 $C_{14}H_{34}$ Si_2[5]
1,00	C_6H_6; 0,11 C_6H_5—C_6H_5; 1,30 $(CH_3)_3$ $SnOCOC_6H_5$[5]
1,18	C_6H_5 $COOH$; 0,60 $(C_2H_5)_3$ $SiOCOC_6H_5$

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ZAALISHVILI, Sh.D.; KOLYSKO, L.E.; Prinimali uchastiye: SHUMILKINA, M.I.; D'YACHKOVSKAYA, O.S.

Second virial coefficient of vapors and their mixtures. Part 3: Acetone - chloroform system. Zhur.fiz.khim. 35 no.11:2613-2615 N '61. (MIRA 14:12)

1. Gor'kovskiy politekhnicheskiy institut imeni A.A.Zhdanova. (Acetone) (Chloroform)

VYAZANKIN, N.S.; RAZUVAYEV, G.A.; D'YACHKOVSKAYA, O.S.; SHCHEPETKOVA, O.A.

Reaction of benzoyl peroxide with triethylalkoxytin compounds. Dokl. AN SSSR 143 no.6:1348-1350 Ap '62. (MIRA 15:4)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N.I.Lobachevskogo. 2. Chlen-korrespondent AN SSSR (for Razuvayev).
(Benzoyl peroxide) (Tin organic compounds)

RAZUVAYEV, G.A.; VYAZANKIN, N.S.; D'YACHKOVSKAYA, O.S.

Reactions of peroxide compounds with organic derivatives of silicon, tin, and lead. Zhur.ob.khim. 32 no.7:2161-2169 Jl '62. (MIRA 15:7)

(Peroxides) (Silicon organic compounds)
(Organometallic compounds)

S/079/63/033/002/006/009
D204/D307

AUTHORS: Vyazankin, N.S., Razuvayev, G.A and D'yachkovskaya, O.S.

TITLE: The reaction of tetraethylsilane and its analogs with alkyl halides

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 2, 1963, 613 - 617

TEXT: Compounds Et_4M (M = Si, Ge, Sn) were treated, dropwise, with equimolar proportions of iso-PrX (X = Cl, Br), in the presence of anh. $AlCl_3$, at room temperature, over 3-4 hours. Exothermic reactions took place. The products consisted of Et_3MX in high yields, and smaller amounts of iso-pentane, ethane, ethylene, propane, propylene, and butane. The formation of hydrocarbons is ascribed to the combination of alkyl residues (iso-pentane) and H-transfer from the Et group of the organoelemental compound to the iso-propyl radical of the alkyl halide (ethylene and propane). Hexaethyldisilane was similarly treated dropwise with iso-PrBr, over

S/079/63/033/002/006/009
D204/D307

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anh. $AlCl_3$, at room temperature, and the mixture was boiled over 3 hours. The products contained pentaethylbromodisilane (PEBD), ethane, ethylene, and propane, the yield of PEBD being 72.2 %. The latter product was converted to decaethyltetradisilane by the reaction with metallic molten Na, under purified N_2, over 10-12 hrs. There is 1 table.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet imeni N.I. Lobachevskogo (Gor'kiy State University imeni N.I. Lobachevskiy)

SUBMITTED: March 28, 1962

Card 2/2

ZHIKHAREVA, Z.L.; KHOKHRYAKOV, M.K., prof.; D'YACHKOVSKAYA, R.V.

Coevals of the October Revolution. Zashch. rast. ot vred. i bol. 7 no.11:1-4 N '62. (MIRA 16:7)

D'YACHKOVSKAYA, T.B.

Dynamics of the alkaloid content in Aconitum Stoloniferum Steinb. depending on the conditions of growth. Trudy [illegible] no.7:49-51 '62. (CIRA 17:11)

5(4)

SOV/20-123-5-28/50

AUTHORS: D'yachkovskiy, F. S., Bubnov, N. N., Shilov, A. Ye.

TITLE: Formation of Free Radicals in Bimolecular Reactions (Obrazovaniye svobodnykh radikalov v bimolekulyarnykh reaktsiyakh)
The Reaction Between Triphenylchloromethane and Ethyl Lithium (Reaktsiya mezhdu trifenilkhlormetanom i etillitiyem)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 5, pp 870-873 (USSR)

ABSTRACT: The authors first mention some previous papers on this subject. They investigated the interaction of triphenylchloromethane with ethyl lithium, the first act of which must be exothermic if it proceeds according to the scheme. The reaction was carried out in a thin-walled test tube which was placed in the resonator of a EPR-spectrometer. In this reaction radicals were actually observed. The hyperfine spectrum of these radicals exactly corresponds to the spectrum of absorption of triphenylmethyl radicals. A diagram shows the kinetic curves for the variation of the concentration of triphenylmethyl radicals in the course of the reaction at -44, -54, and -80°. In the first instant of the reaction, the concentration has a distinctly marked maximum and it decreases behind this maximum. The descending parts of the curve represent the recombination of the

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Formation of Free Radicals in Bimolecular Reactions. The Reaction Between Triphenylchloromethane and Ethyl Lithium

triphenylmethyl radicals (formed in the first act of the reaction) before reaching the equilibrium concentration. The descending part of the curves represents the recombination of the triphenylmethyl radicals $(2(C_6H_5)_3C\cdot \rightleftarrows (C_6H_5)_3C - C(C_6H_5)_3)$ in the first act of the reaction. The experimental results prove the primary formation of the above-mentioned radicals. The maximum of the kinetic curves is not caused by an increase in temperature of the reaction mixture. The character of the kinetic curves corresponds to an accumulation of the intermediate product in the successive bimolecular reactions. The constants of velocity and the activation energy of the reaction of radical formation can be calculated from the kinetic curves found in this paper. According to these results, elementary reactions of the type $R'X + YR'' \rightarrow R'\cdot + XY + \cdot R''$ under suitable energy conditions can proceed with the formation of free radicals of insignificant energy. It has hitherto not been possible to generalize the results of the present paper for any reaction of halogen

SOV/20-123-5-28/50

Formation of Free Radicals in Bimolecular Reactions. The Reaction Between Triphenylchloromethane and Ethyl Lithium

alkyls with metalorganic compounds. There are 2 figures, 1 table, and 12 references, 5 of which are Soviet.

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

PRESENTED: July 16, 1958, by V. N. Kondrat'yev, Academician

SUBMITTED: July 12, 1958

Card 3/3

DYACHKOVSKIY, F.S.

USSR/Physical Chemistry - Kinetics, Combustion, Explosions, Topochemistry, Catalysis. B-9

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7201.

Author : M.G. Gonikberg, V.B. Miller, M.B. Neyman, F.S. D'yachkovskiy, G.I. Likhtenshteyn, A.A. Opekunov,

Inst : Moscow Inst. Chem. Physics

Title : Investigation of Solvent Influence on Reaction Rate of Isotope Exchange C_3H_7I + I* under Pressures up to 2500 kg/sq.cm.

Orig Pub: Zh. fiz. khimii, 1956, 30, No 4, 784-788.

Abstract: The isotope exchange of n-C_3H_7I + I* in C_2H_5OH, alcohol-aqueous solutions and acetone was investigated at 20° and under the pressure of 1, 1500 and 2500 abs. atm. The reaction proceeds according to the ion-molecular mechanism; the rate constants k . 10^5 (lit . $mole^{-1}$, sec^{-1}) are at 1, 1500 and 2500 abs. atm. correspondingly as follows: in alcohol - 10, 18 and 23.5; in 90%-ual alcohol - 8, 18 and 22; in 80%-ual alcohol - -8, and 20; in 70%-ual alcohol - 8.5, 16 and 18; in acetone - 2300, 1300 and 800.

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5(4) SOV/20-122-4-25/57

AUTHORS: D'yachkovskiy, F. S., Rubnov, N. N., Shilov, A. Ye.

TITLE: The Investigation of the Recombination of Triphenylmethyl Radicals by the Method of Electron Paramagnetic Resonance (Izucheniye kinetiki rekombinatsii trifenilmetil'nykh radikalov metodom elektronnogo paramagnitnogo rezonansa)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 4, pp 629-631 (USSR)

ABSTRACT: According to K. Ziegler et al. (Ref 1), the inverse reaction of the recombination of triphenylmethyl radicals must proceed with an activation energy which is equal to the difference between the activation energy of the dissociation and the dissociation heat of hexaphenylethane (6 - 8 kcal). By the method of paramagnetic electron resonance, this conclusion could be confirmed by immediate measuring of the dimerization rate of triphenylmethyl radicals in the solution. A capillary with a solution of hexaphenylethane in toluene was heated to 100° and then it was rapidly cooled down to the temperature of the experiment. This operation was carried out in a thermostat which was placed within the resonator of the EPR -spectro-

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The Investigation of the Recombination of Triphenylmethyl Radicals by the Method of Electron Paramagnetic Resonance

meter. In this way, noticeable superequilibrium concentrations of the triphenylmethyl radicals were obtained, and their recombination rate could be measured. The carrying out of the experiments is discussed in short. A figure shows 2 kinetic curves of the recombination of triphenylmethyl radicals at -64° and -55°. The recombination rate increases noticeably with temperature. An equation for the kinetics of the radical recombination is given, the inverse reaction is taken into account. The second diagram demonstrates the temperature dependence of the equilibrium constant and the third diagram shows the temperature dependence of the constant of the dimerization rate. The Arrhenius (Arrenius) dependence is well satisfied. Thus, the direct determination of the dimerization rate of triphenylmethyl radicals confirmed not only the existence of an activation energy of this reaction but also its value (which coincides with the difference between the activation energy of the dissociation and the energy necessary for the breaking of the C-C bond of hexaphenyl ethane . The authors thank V. V. Voyevodskiy (Corresponding Member, Academy of Sciences, USSR) for his interest in this paper. There are 3

The Investigation of the Recombination of Triphenylmethyl Radicals by the Method of Electron Paramagnetic Resonance SOV/20-122-4-25/57

figures and 3 references, 1 of which is Soviet.

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

PRESENTED: May 23, 1958, by V. N. Kondrat'yev, Academician

SUBMITTED: May 14, 1958

Card 3/3

D'YACHKOVSKIY, F.S.; SHILOV, A.Ye.; EL'TERMAN, L.I.

Rate of reaction between ethyllithium and alkyl chlorides as a function of C - Cl bond energy. Kin. i kat. 4 no.4:644-647 Jl-Ag '63. (MIRA 16:11)

1. Institut khimicheskoy fiziki AN SSSR.

D'YACHKOVSKIY, F.S.; SHILOV, A.Ye.

Effect of the nature of halogen on the rate of reaction between ethyllithium and alkyl halides. Kin. i kat. 4 no.6: 919-923 N-D '63. (MIRA 17:1)

1. Institut khimicheskoy fiziki AN SSSR.

D'YACHKOVSKIY, F.S.; SHILOV, A.Ye.

Reaction of the mechanism of ethyllithium with ethyl iodine.
Zhur.ob.khim. 33 no.2:406-411 F '63. (MIRA 16:2)

1. Institut khimicheskoy fiziki AN SSSR.
(Lithium) (Ethane)