KONDRAT'YEV, V.N.

The hydration heat of atoms. V. N. Kondrat'ev and N. D. Sokolov (Inst. Chem. Phys., Acad. Sci. U.S.S.R., Moscow). *Zhur. Fiz. Khim.* 29, 1265–72(1955).—A system of relative heats of ion hydration is proposed, based on the universally accepted system of heat of formation of ions in soln., in which the heat of formation of the H ion in a dil. soln. is equated to 0. The heats of hydration of some alkoxy ions were calcd. on the basis of the relation between the hydration heats of the ions and their radii; also the affinity of the simplest alc. mols. to protons, etc. W. M. S.

KONDRAT'YEV, V.N.

ROSENTSVEYG, L.N.; LIFSHITS, I.M.; LEYKIN, G.A.; KONDRAT'YEV, V.N.

Nobel prizes for 1954 in the fields of physics and chemistry.
Priroda 44 no.12:37-41 D '55. (MLRA 9:1)

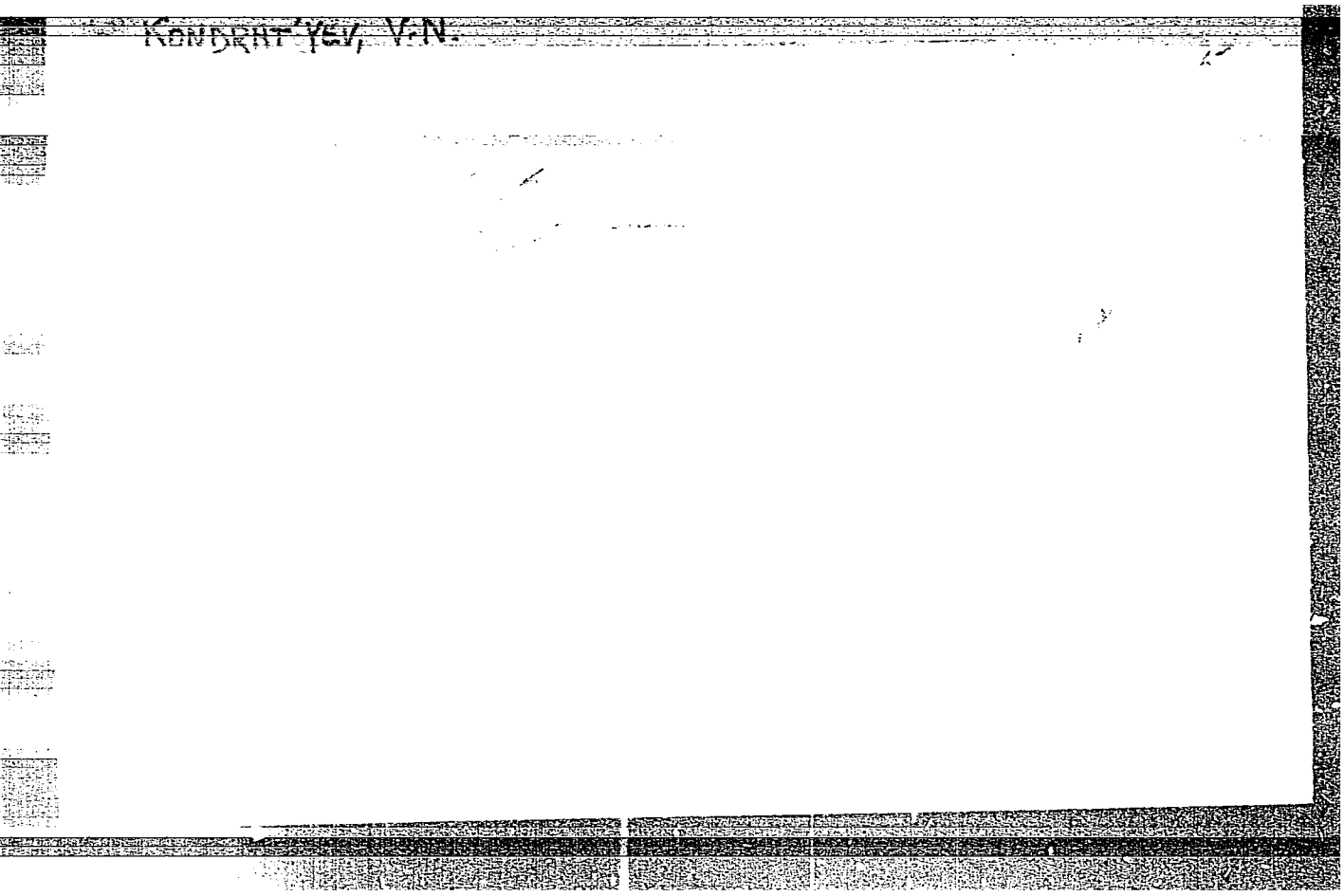
1.Chlen-korrespondent AN USSR (for Lifshits)
(Nobel prizes) (Physicists) (Chemists)

KONDRAT'YEV, Viktor Nikolayevich, akademik; KIPNIS,S.Ye., redaktor; ISLENT'YEVA,P.G., tekhnicheskiy redaktor

[Scientific results of the International Conference on the Peaceful Use of Atomic Energy: Geneva, August 8-20, 1955.] Nauchnye itogi Mezhdunarodnoi konferentsii po mirnomu ispol'zovaniiu atomnoi energii; Zheneva, 8-20 avgusta 1955 g. Moskva Izd-vo "Znanie," 1956. 31 p.(Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.3, no.4) (Atomic energy research) (MLRA 9:2)

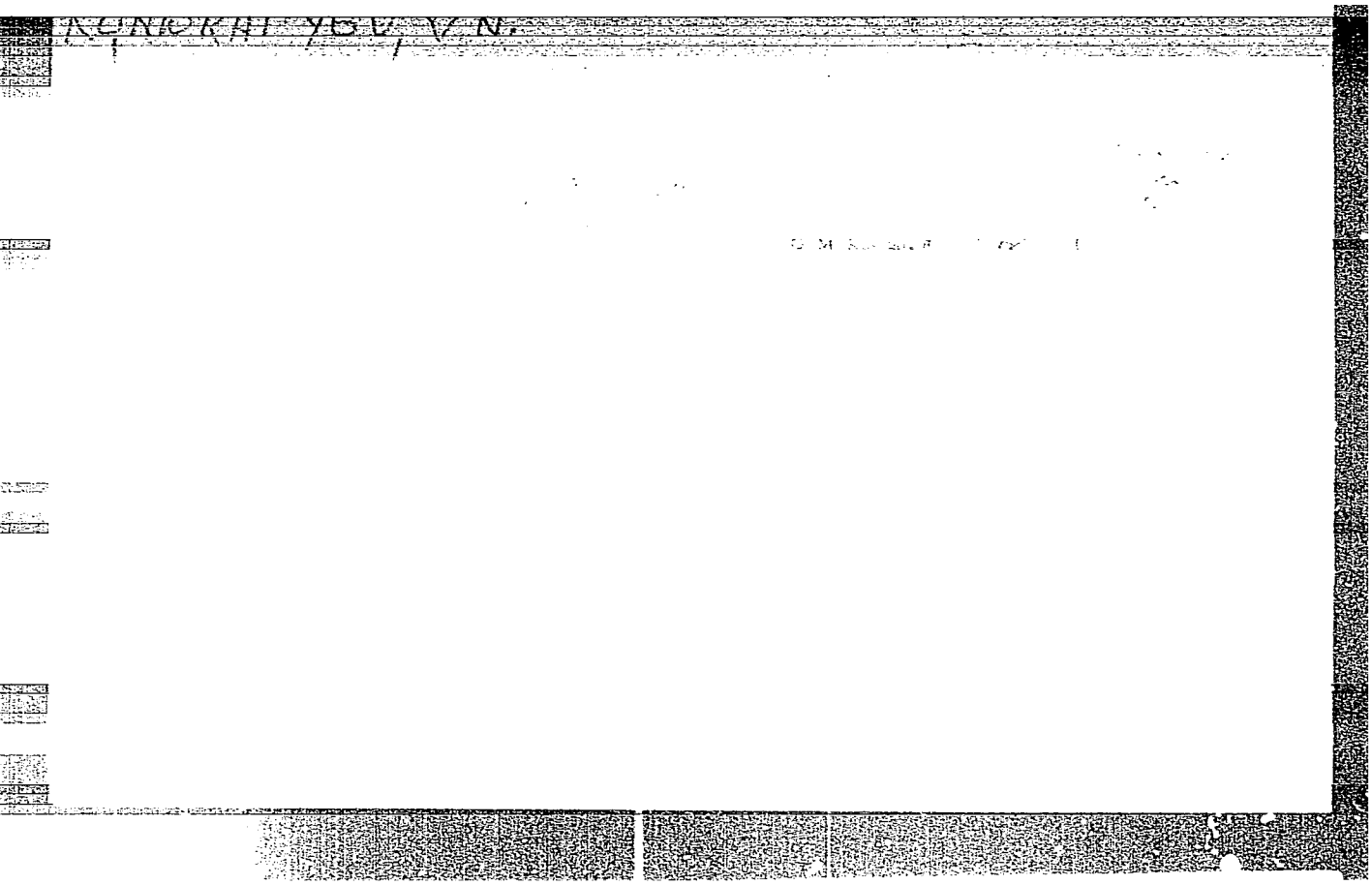
KONDRAT'YEV, V.N.

Survey on the history of the development of chemical reaction kinetics. Vop.ist.est.i tekh. no.2:9-49 '56. (MLRA 10:1)
(Chemical reactions, Rate of)



KONDRAT'YEV, V.N., akademik.

Methods of developing the theory of a chemical process (homogeneous reaction). Vest.AN SSSR 26 no.5:9-21 My '56. (MLRA 9:8)
(Chemical reactions)



KONDRAT'YEV, V.N.

AUTHOR: Kondrat'yev, V. N. (Moscow) 74-11-5/7

TITLE: The Development of Chemical Physics in the USSR Since 40 Years (Razvitiye khimicheskoy fiziki v SSSR za 40 let).

PERIODICAL: Uspekhi Khimii, 1957, Vol. 26, Nr 11, pp. 1310-1319 (USSR)

ABSTRACT: Towards the end of the years about 1920, a new science developed - something between chemistry and physics - the socalled chemical physics. The electron theory and the quantum theory appeared as theoretical basis of this science. The investigations of Semyenov and his students enjoyed to lay the foundations of this young Soviet science. The investigations referred to the field of chain reactions. According to Semyenov each inflammation sets always in when the probability of an increase of the active molecules, or of the branching of the chain, prevails over the probability of the destruction of the active molecules with respect to their deactivity. Neyman and Koval'skiy elaborated this theory and completed it. The rules governing the chain theory, from the chemical point of view, were explained by Kondrat'yev and his students, on the strength of methods which permitted to study the atoms and radicals in course of

Card 1/2

PA - 2620

AUTHOR: KONDRAT'YEV,V.N.

TITLE: Celebrations on the Occasion of the Awarding of the Nobel Prize in 1956. (Na torzhyestvakh posvyashchyennykj bruchyeniyu Nobelevskikh pryemiy 1956 goda, Russian)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1957, Vol 27, Nr 3, pp 90-94 (U.S.S.R.)

Received: 5 / 1957 Reviewed: 7 / 1957

ABSTRACT: The awarding of the Nobel Prize to the Soviet scientist N.N.SYEMYENOV is described as a "Day of Honor for Soviet Science". The article gives a short survey of the history of the Nobel Prize and enumerates all those to whom the Nobel prize has hitherto been awarded. Two new names were added to this honorable list in 1956: N.N.SYEMYENOV and S.N.HINSHELWOOD, who were jointly awarded the Nobel Prize for research work in the field of chemical reaction mechanism.
The article tells of the activities of N.N.SYEMYNOV and also mentions the achievements of the president of the British Royal Society, Sir S.N. HINSHELWOOD. The fact is stressed that the two scientists have much in common with respect to their ideas and methods, and that they have been friends for many years. They keep up regular correspondence on scientific matters and met in 1945 when HINSHELWOOD took part in the celebrations on the occasion of the 220 year's jubilee of the Academy of Science of the USSR in Moscow, and they also met at Stockholm when the Nobel Prize was awarded to them jointly. This fact is appreciated

Card 1/2

KONDRATYEV, V. N.

(Institute of Chemical Physics, USSR Academy of Sciences, Moscow)

"Reactions of Some Radicals and Their Concentration in Flames."

paper submitted at The Seventh Intl. Symposium on Combustion - London and Oxford, England, 28 Aug - 3 Sep '58.

C - 3,800830 , 25 July 1958.

VINOGRADOV, A.P., akademik, red.; KONDRAT'YEV, V.N., akademik, red.; ALIMARIN, I.P., red.; BAKH, N.A., doktor khim. nauk, red.; NIKOLAYEV, A.V., red.; NESKRASOVA, G.A., kand. khim. nauk, red. MAKUNI, Ye.V., tekhn. red.

[Isotopes and radiation in chemistry; papers at a conference] Izotopy i izlucheniia v khimii; trudy konferentsii. Moskva, Izd-vo Akad. nauk SSSR, 1958. 380 p. (MIRA 11:8)

1. Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniy v narodnom khozyaystve i nauke. 2d, Moscow, 1957. 2. Chlen-korrespondent Akademii nauk SSSR (for Alimarin).

(Isotopes) (Radiation)

VINOGRADOV, A.P., akademik, otv. red.; KONDRAT'YEV, V.N., akademik, red.; ALIMARIN, I.P., red.; BAKH, N.A., doktor khim. nauk, red.; NEKRASOVA, G.A., kand. khim. nauk, red.

[Isotopes and radiation in chemistry; transactions] Izotopy i izlucheniia v khimii; trudy. Moskva, Izd-vo AN SSSR, 1958. 380 p. (MIRA 18:6)

1. Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniy v narodnom khozyaystve i nauke. 2d, Moscow, 1957.
2. Chlen-korrespondent AN SSSR (for Alimarin).

chemical reactions, reactions in an electric discharge, and
Card 1/18

Kinetics of Chemical Gas Reactions SOV/1200

partly radiochemical reactions. Particular attention is given to the photochemical and electric activation of molecules. General information pertaining to kinetics, thermodynamics. and the theory of combustion is also included in the text. Chapter 3, and individual parts of the Chapters 4, 5, 6, and 8, were written by N.D. Sokolov. The author thanks V.V. Voyevodskiy, A.B. Nalbandyan, Yu.S. Sayasov, A.S. Sokolik, and V.L. Tal'roze for reviewing individual chapters of this monograph. V.D. Grammatchikov and Ye.I. Kondrat'yev assisted in preparing the book for publication. There are 204 figures, 62 tables, and 1334 references, 310 of which are Soviet and 1024 English, German, and French.

TABLE OF CONTENTS:

Card 2/18

KONDRATIEV, V.

Kinetics of chemical reactions. p. 193.

Academia Republicii Populare Romine. STUDII SI CERCETARI DE CHIMIE. Bucuresti, Rumania. Vol 6, no. 2, 1958.

Monthly list or East European Accessions (EEAI) Vol. 8, no. 7, July 1959

Uncl

NALBANDYAN, Aram Bagratovich; YENIKOLOPYAN, Nikolay Sergeyevich; KONDRAT'YEV, V.N., akademik, otv.red.; VYAZEMTSEV, V.N., red. izd-va; GUSEVA, L.P., tekhn.red.

[Formaldehyde, a basic material in the manufacture of plastics] Formal'degid - material dlia plastmass. Moskva, Izd-vo Akad. nauk SSSR, 1959. 68 p. (MIRA 12:11)
(Formaldehyde) (Plastics)

PHASE I BOOK EXPLOITATION SOV/4211

Kondrat'yev, Viktor Nikolayevich

Struktura atomov i molekul (The Structure of Atoms and Molecules). 2nd ed., rev. Moscow, Fizmatgiz, 1959. 524 p. Errata slip inserted. 15,000 copies printed.

Ed.: V. I. Rydnik; Tech. Ed.: S. S. Gavrilov.

PURPOSE: This book is addressed to students following courses in physics and chemistry at the university level.

COVERAGE: The book is based on lectures for the course "The Structure of Atoms and Molecules" given by the author at the Fiziko- mekhanicheskiy fakul'tet (Division of Physics and Mechanics) of the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute) over a period of many years. The author deals with theoretical and experimental aspects of electrons, the atomic nucleus, atomic structure and molecular structure. No personalities are mentioned. There is a bibliography of references, mostly Soviet, at the end of each chapter.

Card 1/13

PHASE I BOOK EXPLOITATION SOV/5597

Kondrat'yev, Viktor Nikolayevich, Academician

Svobodnyye radikaly - aktivnaya forma veshchestva (Free Radicals, the Active Form of Substance) Moscow, Izd-vo AN SSSR, 1960. 54 p. Errata printed on the inside of back cover. 20,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR.

Ed. of Publishing House: T.G. Levi; Tech. Ed.: I.F. Koval'skaya.

PURPOSE: This book is intended for the general reader.

COVERAGE: The booklet reviews the history, properties, and methods of producing and investigating free radicals, and discusses some reactions involving free radicals, e.g., polymerization, oxidation, combustion, etc. Special attention is given to the behavior of free radicals in solids and in cosmic space. No personalities are mentioned. There are no references.

Card ~~1/2~~

KONDRAT'YEV, V. N.

report to be submitted for the IUPAC 21st Conference and 13th Intl. Congress of Pure and Applied Chemistry, Montreal, Canada, 2-12 August 1961

GORODISKIY, O. V., Academy of Sciences UkSSR, Kiev - "The oscillographic investigation of the electrochemical kinetics in fused salts" (Section A.3,e.2 - Session I, 11 Aug 61, afternoon)

GURVICH, L. V., Academy of Sciences USSR, Moscow - "The calculation of thermodynamic functions of gases in a wide temperature range" (Section A.3,c,(1), Session II - 8 Aug 61, afternoon)

KARGIN, V. A., Physico-Chemical Institute imeni L. Ya. Karpov, Moscow - "Vitrification phenomena in crystallin polymers" (Section B.4 - 7 Aug 61, afternoon)

KISELEV, A. V., Moscow State University imeni M. V. Lomonosov - "The influence of surface heterogeneity and adsorbate-adsorbate interaction on the adsorption properties of solid surfaces" (Joint Session, Sections A.2 and B.1 - 8 Aug 61, morning)

KONDRAT'YEV, V. N., Institute of Chemical Physics, Academy of Sciences USSR, Moscow - "The HO_2 radical" (Section A.1, Session I - 11 Aug 61, morning) (Also, Section A.1, Chairman, Session I - 8 Aug 61, morning)

KUZNETSOV, V. I., Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Academy of Sciences USSR - "A novelty in the use of organic co-precipitants for concentration of small amounts of the elements" (To be presented in Russian) (Section C.2 - 11 Aug 61, morning)

LAVRUKHINA, A. K., RAKOVSKIY, E. E., and MOSKALEVA, L. P., Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Academy of Sciences USSR - "New data on radiochemical investigations of the processes of fission and fragmentation induced by high energy protons" (Section A.5 - 8 Aug 61, afternoon)

LOVACHEV, L. A., Academy of Sciences USSR, Moscow - "Determination of rate constants of elementary processes from flame velocities as a function of temperature, pressure, and molecular transfer coefficients" (Section A.3,b,(2) - 7 Aug 61, afternoon)

MCHDIATH, S. (Probably MKHDYATH, S.) and GERASIMOV, Y. I., Moscow State University imeni M. V. Lomonosov - "Study of the thermodynamic properties of the system iron-latinum" (Section A.3,c,(3), Session II(A) - 11 Aug 61, morning)

PANCHENKOV, G. M., KOLCHIN, A. M., MALANOV, V. F., and SHEKHI, Ya., Moscow State University imeni M. V. Lomonosov - "Emission of complex ions in solid-phase reactions" (Joint Session, Sections A.2 and B.1, 8 Aug 61, morning)

SEMENOV, N. N., Institute of Chemical Physics, Academy of Sciences USSR, Moscow - "Certain chemical reactions at reduced temperatures and related problems of energy transfer" (To be presented in Russian) (Plenary lecture - Saturday, 12 Aug 61)

SHILOV, Ye. A., Academy of Sciences UkSSR, Kiev - "The active agents and the intermediary complexes in the heterolytic reactions of halogenation of the organic compounds" (Section A.1, Session II - 11 Aug 61, morning)

SMIRNOV, M. V., Electrochemistry Institute, Sverdlovsk - "The equilibrium between the titanium subgroup metals and the salt melts" (Section B.3 - 7 Aug 61, afternoon)

TAL'ROZE, V. L., Institute of Chemical Physics, Academy of Sciences USSR - "Reactions of ions and molecules in the gas phase" (Section A.1, Session I - 9 Aug 61, afternoon)

TERENIN, Aleksandr N., Leningrad State University imeni A. A. Zhdanov - (Section A.1, Chairman, Session I - 8 Aug 61, afternoon Session) (Also on program for Section A.1, Session I - 9 Aug 61, afternoon)

TERENIN, Aleksandr N., VILESOV, F. I., KURBATOV, B., and DODONOVA, N. Y., Leningrad State University imeni A. A. Zhdanov - "Mass-spectrometry and luminescence of radicals in the photodissociation and photoionization of molecules by vacuum ultra-violet radiation" (Section A.1, Session I - 9 Aug 61 - afternoon)

TUNITSKIY, N. N., Scientific Research Physico-Chemical Institute imeni L. Ya. Karpov - "On the dissociation of molecules on electron impact and the early states of radiation-chemical processes" (Section A.1, Session I - 8 Aug 61, afternoon)

YACHMENEV, Emmanuil Ye., and KOROLEV, V. V., Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Moscow - "The plasma generator and its use for spectral analysis of alloys and rocks" (Section C.1 - 8 Aug 61, morning)

VINOGRADOV, A. P., LAVRUKHINA, A. K., and REVINA, L. D., Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Academy of Sciences USSR - "The study of nuclear reactions in iron meteorites under the action of high energy protons" (Section A.4 - 8 Aug 61, afternoon)

YAKOVLEV, Yu. V., and ALIMARIN, I. P., Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Academy of Sciences USSR - "The determination of trace impurities in some materials for semiconductor techniques by radio-activation analysis" (To be presented in Russian) (Section C.1 - 8 Aug 61, afternoon)

YEROFEYEV, Boris V., Institute of Physical-Organic Chemistry, Minsk - "The effect of donor and acceptor admixtures on the decomposition rate of solids" (Section A.2 - 8 Aug 61, afternoon)

NEYMAN, Moisey Borisovich; KONDRAT'YEV, V.N., akad., otv. red.; KLYAUS, Ye.M., red.izd-va; POLENOVA, T.P., tekhn. red.

[Atomic energy and its utilization] Atomnaia energiia i ee primenenie. Moskva, Izd-vo Akad.nauk SSSR, 1961. 142 p. (MIRA 14:12)
(Atomic energy)

Per Cent

S/195/61/002/004/003/006
E030/E585

AUTHORS: Kondrat'yev, V.N. and Ptichkin T.I.

TITLE: Reaction of carbon monoxide with ozonated oxygen in the gas phase

PERIODICAL: Kinetika i kataliz, v.2, no.4, 1961, 492-496

TEXT: Previous works on the formation of carbon dioxide by oxidation of carbon monoxide in the presence of ozone have assumed a reaction of the form:

$$CO + O_3 = CO_2 + O_2,$$

but the results have never been in satisfactory agreement with experiment. The present work comprises more accurate experiments measuring the relative luminescence in the 3500-5900 Å range, from 100-250°C. The ozone was measured iodometrically, and the carbon dioxide by a 0.01 N $Ba(OH)_2$ solution; by carrying out the ozone determination prior to the carbon dioxide determination the errors in the previous works were minimized. A conventional apparatus was used, with equimolar mixtures of carbon dioxide and ozonated oxygen containing 3.26% ozone initially. The results

Card 1/3

J.Amer.Chem.Soc., 76, 1523, 1954; Ref.3: S.W.Benson, A.E.Axworthy, J.Chem.Phys., 26, 1718, 1957.

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

SUBMITTED: June 2, 1961

Fig.2

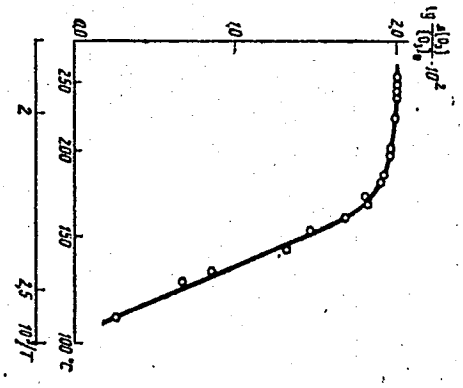
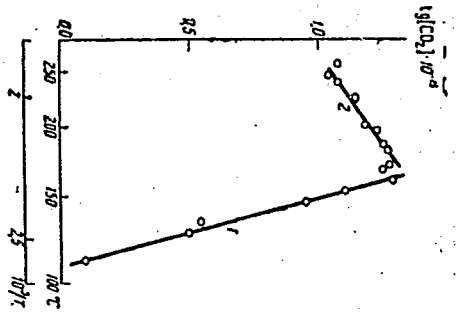


Fig.3



Card 3/3

KONDRAT'YEV, V.N., akademik

Elementary chemical processes. Priroda 51 no.4:42-47 Ap '62.
(MIRA 15:4)
(Chemistry, Physical and theoretical)

KONDRAT'YEV, V. N.

KONDRATIYEV, V. N.

"On the Mechanism of Vibrational Energy Relaxation . "

presented at the Solvay Conference on the Transfer of Energy in Gases in Brussels, Belgium, 5-10 Nov '62

Acad. Sci., USSR, Moscow

VEDENEYEV, Vladimir Ivanovich; GURVICH, Lev Veniaminovich; KONDRAT'YEV, Viktor Nikolayevich, akademik; MEDVEDEV, Vadim Andreyevich; FRANKEVICH, Yevgeniy Leonidovich; DRAGUNOV, E.S., red.; RYLINA, Yu.V., tekhn. red.

[Energies of chemical bond breaking. Ionization potentials and electron affinity]Energii razryva khimicheskikh sviazei. Potentsialy ionizatsii i sredstvo k elektronu; spravochnik. [By]V.I. Vedeneyev i dr. Moskva, Izd-vo Akad. nauk SSSR, 1962. 215 p. (MIRA 16:2)

(Chemical bonds) (Ionization) (Chemical affinity)

KONDRAT'YEV, V.N., akademik

Rate constants of the thermal excitation of sodium in sodium vapor mixtures with argon and nitrogen. Dokl. AN SSSR 153 no.5:1108-1110 D '63. (MIRA 17:1)

NIKITIN, Yevgeniy Yevgen'yevich KONDRAT'YEV,V.N.,akademik,otv.red.;

[Modern theories of the thermal disintegration and izomerization of molecules in the gaseous phase] Sovremennye teorii termicheskogo raspada i izomerizatsii molekul v gazovoi faze. Moskva, Izd-vo "Nauka," 1964. 104 p. (MIRA 17:8)

KONDRAT'YEV, V. N.

"Determination of the rate constant for thermal cracking of methane by means of adiabatic compression and expansion."

report submitted to 10th Intl Symp on Combustion, Cambridge, UK, 17-21 Aug 64.

ACCESSION NR: AP4010049 S/0062/64/000/001/0166/0168

AUTHOR: Kondrat'yev, V. N.

TITLE: The importance of diffusion control in jet kinetics

SOURCE: AN SSSR. Izvestiya. Ser. khim., no. 1, 1964, 166-168

TOPIC TAGS: hydrogen atoms, oxygen atoms, atom diffusion, diffusion constant, continuity equation, linear destruction, atom destruction, jet kinetics, potassium chloride, carbon monoxide

ABSTRACT: Voyevodskiy and Kondrat'yev (Progress in Reaction Kinetics, p. 41, Pergamon Press, 1961) showed that failure to consider the diffusion factor in determining the speed constant of elementary chemical processes by the jet method of investigation may lead to considerable errors. It can be shown that substantial errors may also result from disregarding the diffusion of oxygen atoms in similar experiments with oxygen. According to the tests discussed in (3) (L. I. Avramenko and R. V. Kolesnikova, Journal of Chem. Phys. 31, 1196, 1959), the linear destruction of the oxygen atoms is determined by their adsorption on

Card 1/2

ACCESSION NR: AP4010049

the reactor walls and the following reaction: $O + O_2 + O_2 = O_3 + O_2$. The probable formula for the speed constant of that reaction, on the basis of Kaufman's figures (Progress in Reaction Kinetics, p. 1, Pergamon Press, 1961), is

$$k_p = 1.17_4 10^{-34} e^{\frac{700}{RT}} \text{ cm}^6 \cdot \text{molec}^{-2} \cdot \text{sec}^{-1},$$

where $k_p = 2.68 \cdot 10^{-34}$ cm^6 · molec^{-2} · sec^{-1} corresponds to a temperature of 428 K. The experimental data produced by Avramenko and Molesnikova made it possible to determine the coefficient of oxygen atom adsorption on a glass surface covered with potassium chloride. Orig. art. has: 7 formulas.

ASSOCIATION: Institut khimicheskoy fiziki Akademii Nauk SSSR (Institute of physical chemistry, Academy of Sciences, SSSR)

SUBMITTED: 28Jun63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: EL, CH NO REF SOV: 002 OTHER: 007

KONDRAT'YEV, P.S.; OSTROVSKIY, S.L.

Determining mechanical characteristics of metal and bimetal pipes. Trudy TsNII no.50:24-[illegible] '64. (MIRA 18:4)

INTEZAROVA, Ye.I.; KONDRAT'YEV, V.N.; MUKHOYAN, M.Z.

Chemical relaxation in burnt gas. Kin. i kat. 5 no.4:585-591 Jl-Ag '64. (MIRA 17:11)

1. Institut khimicheskoy fiziki AN SSSR.

KONDRATYEV, V.N. [Kondrat'yev, V.N.]

Modern tasks in the kinetics of gas reactions. Kem tud kozl MTA 22 no.1:1-14 '64.

1. Member, Academy of Sciences of the U.S.S.R.

KONDRATYEV, V.N. [Kondrat'yev, V.N.], akademikus

Thermal formation of active centers in the radical oxidation reactions of organic substances. Kem tud kozl MTA 22 no.2: 183-197 '64.

1. Academy of Sciences of the U.S.S.R.

ACCESSION NR: AP4016511 S/0020/64/154/005/1142/1144

AUTHORS: Balakhnin, V.P.; Gershenzon, Yu. M.; Kondrat'yev, V.N. (Academician); Nalbandyan, A.B.

TITLE: Discovering a free hydroxyl in a rarefied hydrogen flame by the electron paramagnetic resonance method

SOURCE: AN SSSR. Doklady*, v. 154, no. 5, 1964, 1142-1144

TOPIC TAGS: hydrogen flame, rarefied flame, microwave spectrum, hydroxyl, free hydroxyl, dipole, dipole transition, hydroxyl absorption, resonator, linear velocity, OH spectrum, OH absorption, atomic oxygen, molecular oxygen

ABSTRACT: Studies made by Dousmanis, Radford and other researchers revealed that the microwave spectrum of OH absorption is dependent on electric dipole transitions, the intensity of which is considerably greater than that of the ordinary electron paramagnetic resonance lines brought about by the magnetic dipole transitions. It

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ACCESSION NR: AP4016511

follows that when the pressure in the flame of H_2 with O_2 is low, it is possible to detect the signals of paramagnetic absorption of a free hydroxyl; the discovery of OH is possible only when the particles are placed in the loop of an ultra-high frequency electric field. The reactor made for investigation purposes (from quartz) was designed in such a way that the absorbing cell filled the entire resonator and this made it possible to observe the spectrum determined by the electric and magnetic dipole transitions. It was found that the OH sign gradually rises with the increasing H_2 content and reaches a maximum when the latter amounts to 60%, while the H sign shows a sharper increase and reaches its maximum value at 70% H_2. No signal of atomic oxygen was observed in our experiment as it was completely suppressed by the signal of molecular oxygen, the amplitude of which at a low temperature of the absorbing cells is considerably greater than the O signal. However, the O concentrations previously observed in H_2-poor mixtures have been considerably greater (60-80 times) than the concentrations of atomic hydrogen.

Card 2/3

ACCESSION NR: AP4012972 S/0020/64/154/004/0883/0885

AUTHORS: Balakhnin, V.P.; Gershenzon, Yu. M.; Kondrat'yev, V.N. (Academician); Nalbandyan, A.B.

TITLE: Measuring the concentrations of atomic oxygen and hydrogen in a rarefied hydrogen flame by the method of electron paramagnetic

SOURCE: AN SSSR. Doklady*, v. 154, no. 4, 1964, 883-885

TOPIC TAGS: elementary reaction, successive reaction, stoichiometry, stoichiometric mixture, resonator, atom concentration, atomic oxygen, atomic hydrogen, rarefied flame, magnetic moment

ABSTRACT: This project relates to the finding of atomic oxygen and the measurements of the concentration of O and H atoms in a rarefied hydrogen flame by the spectra of the electron paramagnetic resonance. The jet-type reactor used in the experiment was placed inside the resonator which made it possible to determine the O and H atom concentrations in the combustion area. The project began with a study

Card 1/B2

L 46182-65 EWT(l)/EWT(m)/EPA(sp)-2/EPF(c)/EWA(d)/EPA(w)-2/EEC(t)/EWP(t)/
Pab-10/Pr-4/Peb IJP(c) JD/WB/AT

ACCESSION NR: AP5010839 UR/0020/65/161/004/0886/0888

AUTHOR: Shvachko, V. I.; Nadykto, B. T.; Fogel', Ya. M.; Garger, K. S.; [illegible], V. N.

TITLE: The use of secondary ion emission for investigation of corrosion processes on the surface of steel

SOURCE: AN SSSR. Doklady, v. 161, no. 4, 1965, 886-888

TOPIC TAGS: secondary emission, steel surface oxidation, iron pentacarbonyl, [illegible] oxide, ferrous hydroxide, argon ion beam, steel corrosion

ABSTRACT: The article presents preliminary results of a study of the processes occurring on the surface of steel during heating in a vacuum (5×10^{-6} mm Hg) and in oxygen (1×10^{-4} mm Hg), carried out with the aid of secondary ionic emission. [illegible] of secondary ion emission was a steel strip [illegible] mm containing [illegible] 45% Mn, 0.28% Cr, [illegible] primary beam was [illegible] accelerated to 2[illegible] kev. [illegible] of the various [illegible] ions versus the temperature of the steel strip are given. The formation

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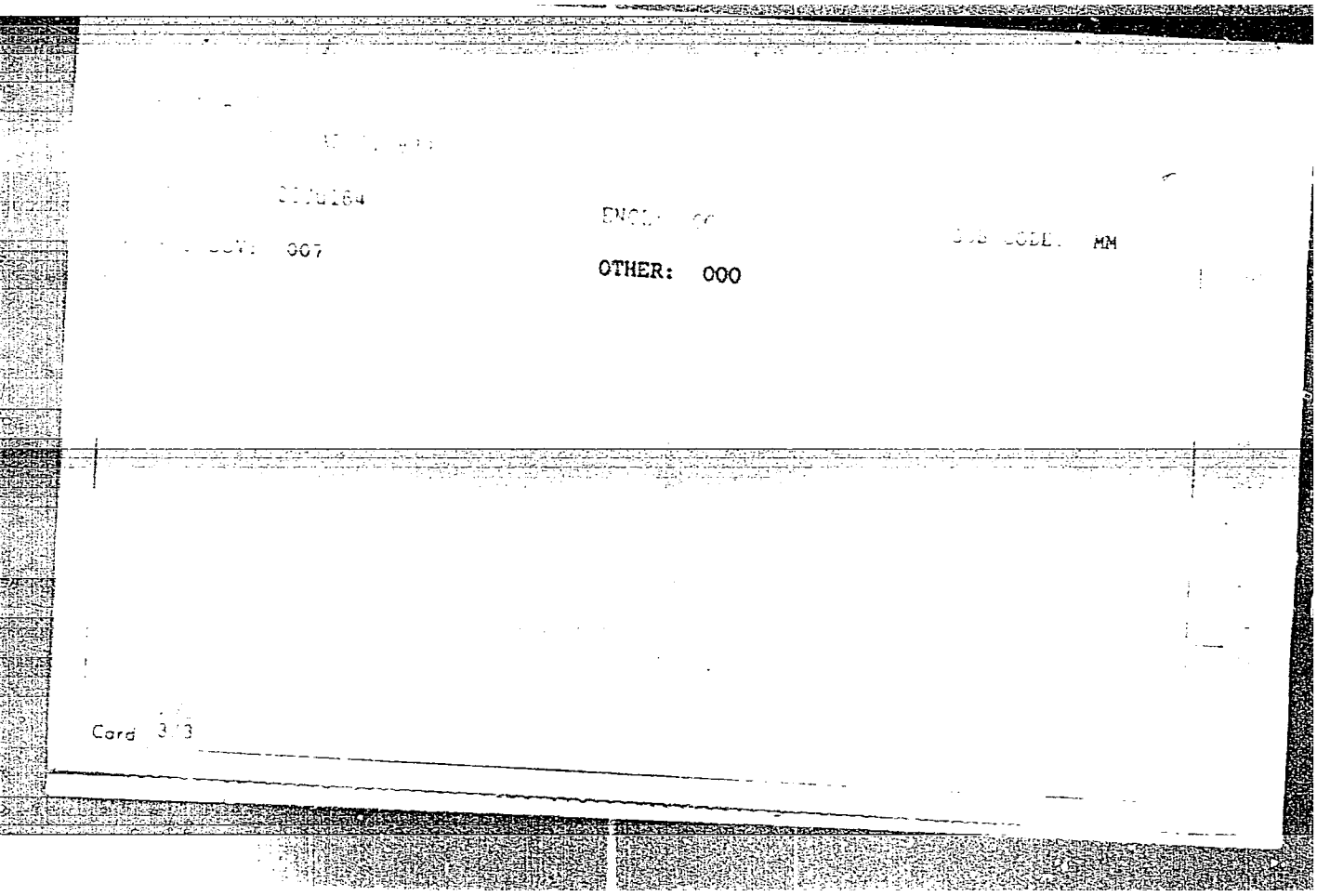
L 46183-65
ACCESSION NR: AP5010839

2

[illegible] oxide on the steel surface is due to oxygen in the residual gas. [illegible] oxygen pressures higher than $2 \cdot 10^{-5}$ mm Hg there is no increase in the [illegible] the $Fe_2O_3^+$ ion beam, and therefore no increase in the oxide coating on [illegible]. In the 20-500° range, the rate [illegible] with temperature more [illegible] [illegible] oxide coating increases. [illegible] this situation is reversed [illegible] The formation of $Fe(OH)_2$ is considered in relation to the pressure of water vapor. The coating of the surface with $Fe(CO)_5$ increases monotonically above 200°. A definite part in the mechanism of formation [illegible] pentacarbonyl is played by the carb[illegible] [illegible] the first stage [illegible] oxidation [illegible] [illegible] in this work.

Card 2/3



ENCL: 00

SUB CODE: MM

OTHER: 000

Card 3/3

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000824220003-0"

KHARITON, Yu.B.; KONDRAT'YEV, V.N.; BOROVIK-ROMANOV, A.S.; ZAVARITSKIY, N.V.; MALKOV, M.P.; KHAYKIN, M.S.; SHARVIN, Yu.V.

Aleksandr Iosifovich Shal'nikov; on his 60th birthday. Usp. fiz. nauk 87 no.1:171-172 S '65. (MIRA 18:9)

EWT(m)/EPF(c)/EWR/EWP(j), Pc-4/Pr-4/Ps-4

ACCESSION NR: AP5010169 UR/0020/65/161/002/0392/0394

AUTHOR: Moin, F. B.; Kondrat'yev, V. N.

TITLE: Calculation of activation energy on the basis of the additivity principle. Hydrocarbon reactions

SOURCE: AN SSSR. Doklady, v. 161, no. 2, 1965, 392-394

TOPIC TAGS: activation energy, saturated molecule, additivity principle, bonding energy, hydrocarbon reaction

ABSTRACT: The potential energy of an activated complex may be regarded as an additive quantity consisting of the bonding energies of individual atoms. Analysis of numerous experimental findings on chemical kinetics shows that this also be extended to the reactions of saturated molecules. This makes it to calculate the activation energies of the corresponding reactions. Thus ion of activation energy, previously derived by the author (F. B. Moin, Doklady Akademii nauk, 152, 1169 (1963)) can be generally applied to any chemical action

Card 1/3

exceed 2-3 kcal/mole. The additive scheme for calculating the activation energy directly relates the reactivity of different molecules to their structure. An important aspect of the additive principle is that it ensures a simple [illegible] energy of extremely complex [illegible] formulas.

Card 2/3

SUBMITTED: [illegible] ENCL: 00

SUB CODE: OC, MP

NO REF SOV: 001 OTHER: 020

Card 3/3

KONDRAT'YEV, V.N.

Loss of frame stability at various positions of the load system.
Trudy LIEI no.57:16-25 '65. (MIRA 18:8)

Q

USSR / Farm Animals General Problems

Abs Jour: Ref Zhur-Biol., No 5, 1958, 21425

Author : Kondrat'yev V. P.
Inst :
Title : Some Questions Relating to the Topography of the Nerves of the Abdominal Wall of Cattle (Nekotoryye voprosy topografii nervov bryushnoy stenki krupnogo rogatogo skota).

Orig Pub: Sb. stud. rabot. Mosk. tekhnol. in-t myas. i moloch. prom-sti, 1956, vyp. 4, 100-103

Abstract: A study of 4 cadavers of cattle revealed that the cutaneous dorsal nerves at the level of the extremities of the transverse costal processes of lumbar vertebrae are not situated subcutaneously but intramuscularly or directly on the above processes. The ventral (caudal) thoracic nerve is situated directly

Card 1/2

S/076/61/035/003/021/023
B121/B206

AUTHORS: Kondrat'yev, V. P. and Gorbachev, S. V.

TITLE: Procedure and apparatus for measurements of electrical conductivity and polarization potentials in electrolysis of aqueous solutions at high temperatures

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 3, 1961, 671-676

TEXT: According to the principle of maintaining constant the composition of the solution to be investigated, the authors designed an electrolytic cell for use in determining the electrical conductivity. The cell for electrolysis and measurement of electrode polarization consists of 3 parts: an inversely U-shaped electrolysis vessel made of quartz with 2 sealed in platinum electrodes, a cell with the reference electrode, and a stopper which simultaneously acts as key switch. The cell used to determine the electrical conductivity contains no cell with a reference electrode. When conducting the electrolysis, the cell is put into an autoclave of 1.5 l capacity. The autoclave is made of stainless chrome-nickel steel of the type 1Х18Н9Т (ЭЯ-1Т) (1Kh18N9T (EYa-1T)). In the investigation of the electrical con-

Card 1/3

Procedure and ...

ductivity, the temperature is determined with an accuracy of $\pm 0.25^{\circ}C$, and in the electrolysis with an accuracy of $\pm 1^{\circ}C$. The autoclave has an outside diameter of 130 mm, an inside diameter of 80 mm, and withstands hydraulic pressures of up to 501 kg/cm^2 and temperatures of $340^{\circ}C$ and more. The autoclave is sealed by conic connections of the metal-metal type. The temperature is measured by a Chromel-Alumel thermocouple which is placed in a protective tube with diffusion oil of the "A" type. The design of the autoclave used to determine the electrical conductivity and of the heater of the autoclave is similar to that described by I. M. Rodnyanskiy and I. S. Galinker (Ref. 3: I. M. Rodnyanskiy, I. S. Galinker, Dokl. AN SSSR, 105, 1955; Ref. 4: I. M. Rodnyanskiy, Dissertatsiya, Khar'kov, 1954); only the temperature measurement and electric supply lines are different. The electrical conductivity of 1 M KCl solutions was investigated. The method proposed permits the determination of the electrical conductivity at a constant composition of the solutions to be investigated and at increasing or constant temperature, but not on a quick temperature decrease. A method for determining the potentials in aqueous solutions at high temperatures was proposed. V. A. Mil'chev (Ref. 9: Izv. Vuz. MVO SSSR (Khim.), no. 2, 114, 1958; Ref. 10: Dissertatsiya, Moskva, 1958) and N. Larionov (Ref. 13:

Dissertatsiya, MOPI, 1951) are mentioned in connection with the design of the electrolytic cell. There are 5 figures and 18 references: 10 Soviet-bloc and 8 non-Soviet-bloc. The four references to English-language publications read as follows: M. H. Lietzke and R. W. Stoughton, J. Amer. Chem. Soc., 75, 5226, 1953; M. H. Lietzke, J. V. Vanghen, J. Amer. Chem. Soc., 77, 876, 1955; S.Senderoff, A. Brenner, J. Electrochem. Soc., 97, 361, 1950; J. N. Ager, W. G. Breck, Nature, 175, 298, 1955.

ASSOCIATION: Khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: September 6, 1960

GORBACHEV, S.V.; KONDRAT'YEV, V.P.

Specific electric conductivity of potassium chloride aqueous solutions at high temperatures. Zhur.fiz.khim. 35 no.6:1235-1239 Je '61. (MIRA 14:7)

1. Khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyava.
(Potassium chloride) (Electric conductivity)

28296 S/076/61/035/010/015/015
B106/B110

AUTHORS: Gorbachev, S. V., and Kondrat'yev, V. P.

TITLE: Electrolysis in aqueous solutions at high temperatures

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 10, 1961, 2400 - 2401

TEXT: The kinetics of electrodic processes in systems with concentration and chemical polarizations was studied by plotting the polarization curves in the temperature range of 25 - 300°C. Electrolysis was performed in a quartz cell according to a method previously described (Ref. 1: V. P. Kondrat'yev i S. V. Gorbachev. Zh. fiz. khimii, 35, 671, 1961). The equipotentials of the logarithm of the electrode reaction rate as a function of the reciprocal absolute temperature were found to be characterized in many cases by curves with a maximum in the temperature range of 220 - 270°C. Fig. 1 shows the curves log i = f(1/T) of the cathodic deposition of silver from its bromide complex in an electrolyte of the following composition: 0.04 m AgBr, 4.5 m KBr (m - molarity). It may be seen that the acceleration of the cathodic deposition of silver decreases more and more with rising temperature, until a maximum value is attained at a

Card 1/5

certain temperature. Further rise in temperature does no longer accelerate the process but retards it. Similar curves are known to characterize also the electrical conductivity of solutions of strong electrolytes (Ref. 2: A. A. Noyes, W. D. Coolidge, Z. phys. Chem., 46, 323, 1903). This phenomenon is apparently mainly due to an association of ions at high temperatures, since aqueous solutions of strong electrolytes having a density of < 0.7 g/cm^3 exhibit the properties of solutions of medium or even weak electrolytes (Ref. 3: E. U. Frank, Z. phys. Chem., 8, 92, 107, 192, 1956). Also the increase of the hydration number of ions at high temperatures, which was found by I. M. Rodnyanskiy and I. S. Galinker (Ref. 4: Zap. Khar'k. s.-kh. in-ta, 14, 43, 1957; Tr. Khar'k. otd. VKhO im. D. I. Mendeleyeva, 1, 135, 1958), as well as the decrease of volume concentration of the electrolyte probably play an important part in the formation of the maximum of the curves $\log i = f(1/T)$. The total increase of the rate of cathodic deposition of silver with rising temperature is not high. The maximum rate is about a little more than five times the rate at room temperature. The effective activation energy determined from the initial part of the curve $\log i = f(1/T)$ is 3080 cal/mole, which may be regarded as a limiting stage of the transport process of the substance.

S/076/61/035/010/015/015
B106/B110

The polarization curves in the cathodic deposition of nickel from a solution with 0.1 m $Ni(H_3C_2O_2)_2$ and 2 m $H(H_3C_2O_2)$ could be plotted only up to 270°C, since nickel hydroxide precipitates at higher temperatures owing to hydrolysis. Fig. 2 shows the corresponding equipotentials which are also curves with a maximum. The ascent of the initial, linear sections of the curves decreases with increasing polarization potential (equipotentials 0.6; 0.8; 1.0 v), which indicates the occurrence of chemical polarization. It may be seen from Fig. 2 that the rate of the process at a polarization of 0.2 v increases by about three orders of magnitude, when the temperature rises from 25 to 240°C. This effect of temperature on the rate of an electrochemical reaction with high activation energy is comparable with the effect of a catalyst. [Abstracter's note: Complete translation.] There are 2 figures and 4 references: 2 Soviet and 2 non-Soviet.

ASSOCIATION: Khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: April 26, 1961

Card 3/5

GORBACHEV, S.V.; KONDRAT'YEV, V.P. (Moscow)

Electrolysis in aqueous solutions at high temperatures. Zhur.fiz.khim. 36 no.10:2162-2168 O '62. (MIRA 17:4)

1. Khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

S/076/63/037/001/011/029
B101/B186

AUTHORS: Kondrat'yev, V. P., Nikich, V. I. (Moscow)

TITLE: Electrical conductivity of aqueous solutions of alkaline earth chlorides at high temperatures

PERIODICAL: Zhurnal fizicheskoy khimii, v. 37, no. 1, 1963, 100-105

TEXT: The data on the electrical conductivity $\varkappa$ of aqueous solutions of $MgCl_2$, $CaCl_2$, and $SrCl_2$ in molal concentrations of 0.05 - 1.0 m and 0.5 m $BaCl_2$ at 25 - 300°C, which so far have not been published, were calculated and are here tabulated. At rising temperature $\varkappa$ was found to pass a maximum. $\varkappa = Ac^k \exp\left[-B(T_{max} - T)^2/T\right]$, where c is the molal concentration, and A, B, k are empirical constants, is valid in the above range of temperatures and concentrations. The occurrence of $\varkappa_{max}$ at a certain temperature is explained by the assumption that the dissociation of the electrolytes decreases as the temperature increases. At lower temperatures the salts are completely dissociated, their $\varkappa$ depends on the

Card 1/2

radius of the solvated ion, i. e. on its mobility, and forms the sequence $Mg^{2+} < Ca^{2+} < Sr^{2+} < Ba^{2+}$. The mobility increases and the amount of the dissociated ion decreases as the temperature rises. Hence, $\varkappa_{max}$ occurs at a certain temperature. Besides, hydrolysis takes place at high temperatures causing the appearance of highly mobile H^+ ions. The sequence $MgCl_2 > CaCl_2 > SrCl_2 > BaCl_2$ holds for $\varkappa$ at 0.05 m, owing to the different tendency of the studied alkaline earth compounds to hydrolyze. There are 6 figures and 4 tables.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: September 27, 1961

Card 2/2

GORBACHEV, S.V.; KONDRAT'YEV, V.P.

Electrolysis in aqueous solutions at high temperatures. Part 2. Zhur. fiz. khim. 38 no.6:1557-1563 Je '64. (MIRA 18:3)

1. Khimiko-tekhnologicheskiy institut imeni Mendeleyeva, Moskva.

KONDRAT'YEV, V.P., mladshiy nauchnyy sotrudnik

Participation of sheep dogs, vigrant and rural dogs in carrying larval cestodiases among farm animals of Kurgan Province. Trudy VIGIS 11:84-88 '64. (MIRA 18:12)

KONDRAT'YEV, V.P.; GORBACHEV, S.V.

Conductance of aqueous solutions at high temperatures. Zhur. fiz.khim. 39 no.11:2753-2756 N '65.
(MIRA 18:12)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva.

KODOLOVA, I.M.; KONDRAT'YEV, V.S. (Moskva)

Method of fluorescence microscopy in the study of chronic nonspecific inflammatory processes in the lungs. Arkh. pat. 27 no.9:22-27 '65. (MIRA 18:12)

1. Kafedra patologicheskoy anatomii (zav.- chlen-korrespondent AMN SSSR prof. A.I. Strukov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova. Submitted December 24, 1963.

KONDRAT'YEV, V. S.

Cand Vet Sci - (diss) "Methods of obtaining, several physico-chemical properties, morphological state of lymph, and characteristics of lymph flow in horned cattle." Tartu, 1961. 21 pp; (Ministry of Agriculture Estonian SSR, Estonian Agricultural Academy); 300 copies; price not given; (KL, 6-61 sup, 234)

KONDRAT'YEV,V.V. (Moskva)

Congenital clubfoot and principles of treatment in infants. Fel'd. i akush. 21 no.4:18-21 Ap '56. (MLRA 9:8)

(FOOT--ABNORMITIES AND DEFORMITIES)

KURASHOV, Sergey Vladimirovich; KONDRAT'YEV, V.V., red.; PARAKHINA, N.L., tekhn. red.

[Hospital care has reached a new stage]Bol'nichnaia pomoshch' na novom etape. Moskva, Medgiz, 78 p. (MIRA 16:3)
(HOSPITALS)

KONDRAT'YEV, V. V.

99-5-4/11

AUTHOR: Beglyarov, S.A., Engineer, Gankin, M.Z., Candidate of Mechanical Sciences, Kondrat'yev, V.V., Engineer

TITLE: Selection of Type for Drainage Canal Pumping Stations (Tipovoye proyektirovaniye melioralivnykh nasosnykh stantsiy na kanalakh)

PERIODICAL: Gidrotekhnika i Melioratsiya, 1957, # 5, p 23-32 (USSR)

ABSTRACT: In 1955 and 1956 the USSR Ministry of Agriculture selected 11 types of pumping stations for irrigation systems, and 2 types for drainage systems. The capacities of the pumps ranged from 100 liter/sec to 6 cu m/sec with manometric pressures up to 30 m, to be installed at canals with variations of water levels up to 2 m. For pumps with up to 150 kw power input, asynchronous, squirrel cage motors of the series "A", "AO" and "ГАМ-6" for vertical and horizontal assembly were used; for pumps with a power input of 150 - 300 kw synchronous low-voltage motors of the type "ДС", and for pumps with a power input exeeding 300 kw high voltage motors (6,000 v) of the types "ДС"and "МС" were used. Giprovodkhoz endeavored to standardize as much as possible the construction of the pumping units as well as their components. In 1957, development of 8 new types of pumping stations, of which 7 are to serve for irrigation, and 1 for drainage

Card 1/3

various types of buildings, special attention was paid to the use of prefabricated reinforced concrete structural parts and prefabricated reinforced concrete pipes. The buildings of the

Card 2/3

Selection of Type for Drainage Canal Pumping Stations 99-5-4/11

chamber type are designed either as monolithic or prefabricated reinforced concrete constructions. The buildings of the water-conducting type are of more simple construction, without complex and expensive underground chambers. The walls are supported by quarry stone-concrete prefabricated foundations.

This article contains 6 figures and 1 table.

ASSOCIATION: State Planning Institute for Water Supply Installations (Gosudarstvennyy institut po proyektirovaniyu vodokhozyaystvennykh ob"yektov - Giprovodkhoz)

AVAILABLE: Library of Congress

Card 3/3

SITKOVSKIY, P.A.; KOMAROV, G.V.; BRUSENTSEV, V.F.; KREMENETSKIY, N.N.; MAMAYEV, M.G., kand.tekhn.nauk; SMIRNOV, A.V., kand.tekhn.nauk; AFANAS'YEV, I.V.; VOLOD'KO, I.F., kand.tekhn.nauk; BEGLYAROV, S.A.; KONDRAT'YEV, V.V.; KARLINSKAYA, M.I.; NIKOLAYEV, M.I., kand.tekhn. nauk; DOROKHOV, S.M.; PISHCHUROV, P.V.; KLIMENTOVA, A.V.; ROZENBLAT, Zh.I.; PANDEYEV, V.V., kand.tekhn.nauk; KULIKOV, P.Ye.; SHIMANOVICH, S.V.; DELITSIN, M.V., retsenzent; BRAUDE, I.D., retsenzent; BARYSHEV, A.M., retsenzent; GRIGORYANTS, A.S., retsenzent; IGNATYUK, G.L., retsenzent; KALABUGIN, A.Ya., retsenzent; KREMENETSKIY, N.D., retsenzent; POPOV, K.V., retsenzent; ORLOVA, V.P., red.; LETNEV, V.Ya., red.; SOKOLOVA, N.N., tekhn.red.; FEDOTOVA, A.F., tekhn.red.

[Handbook for hydraulic and agricultural engineers] Spravochnik gidrotekhnika melioratora. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1958. 766 p. (MIRA 12:3)
(Hydraulic engineering) (Agricultural engineering)

BOLOTIN, B.I., inzh.; KONDRAT'YEV, V.V., inzh.

Drainage in railroad yards. Zhel.dor.transp. 40 no.10:58 O '58.
(MIRA 11:12)

(Drainage) (Railroads--Yards)

KONDRAT'YEV, V.V., inzh.

On adjacent track divisions. Put' i put.khoz. 4 no.10:3-4 O '60. (MIRA 13:9)

(Railroads--Labor productivity)

BEGLYAROV, S.A., inzh.; KONDRAT'YEV, V.V., inzh.

From practices in the design and use of large floating pumping stations. Gidr. i mel. 14 no.12:18-32 D '62. (MIRA 16:5)

1. Vsesoyuznyy gosudarstvennyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut Ministerstva sel'skogo khozyaystva SSSR.
(Pumping stations)

KONDRAT'YEV, V.V., inzh.; KROL', E.G., inzh. Prinimal uchastiye BEGLYAROV, S.A., inzh.

[Instructions for designing irrigation pumping stations] Ukazaniia po proektirovaniiu irrigatsionnykh nasosnykh stantsii. Moskva, Pt.1. 1963. 122 p. (MIRA 18:4)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-izyskatel'skiy institut Giprovodkhoz.

ANOKHIN, A.A., inzh.; ISAYEV, A.G., mashinist-instruktor; KONDRAT'YEV, Ya.M.; KRYUCHKOVA, V.K.; MOKHOVA, Ye.S., pensioner; SEREBRYAKOV, A.P., pensioner; SIDEL'NIKOV, V.M.; SOKOLOVA, Ye., red.; YEGOROVA, I., tekhn.red.

[This is how it was; from the first Communist Saturday to the first Communist labor unit] Kak eto bylo; ot pervogo kommunisticheskogo subbotnika k pervomu kollektivu kommunisticheskogo truda. Moskva, Mosk.rabochii, 1959. 110 p. (MIRA 12:7)

1. Rabotniki depo Moskva-Sortirovochnaya, Moskovsko-Ryazanskoy zheleznoy dorogi (all except Sokolova, Yegorova). 2. Zaveduyushchaya kabinetom politicheskogo prosveshcheniya depo Moskva-Sortirovochnaya, Moskovsko-Ryazanskoy zheleznoy dorogi (for Kryuchkova).

(Railroads--Employees)

KONDRAT'YEV, Ya.M.

KONDRAT'YEV, Ya.M., byvshiy mashinist, uchastnik pervogo kommunisticheskogo subbotnika, chlen Kommunisticheskoy Partii Sovetskogo Soyuza.

Those who began the great undertaking. Elek. i tepl. tiaga no.11: 15-17 N '57. (MLRA 10:11)

1. Depo Moskva-Sortirovochnaya.
(Russia--Revolution, 1917-1921)

KONDRAT'YEV, Ye.D., kand.tekhn.nauk, dots.

Distribution of residual stresses in a steel cylinder caused by the heating of a longitudinal strip. Izv.vys.ucheb.zav.; mashinostr. no.5:56-64 '58. (MIRA 12:5)

1. Taganrogskiy radiotekhnicheskiy institut.
(Thermal stresses)

KONDRAT'YEV, Ye.D.

Remodeled IP-2 machine for testing relaxation. Zav.lab. 26 no.3: 373 '60. (MIRA 13:6)

1. Taganrogskiy zavod "Krasnyy kotel'shchik".
(Testing machines)
(Strains and stresses)

AUTHOR: Kondrat'yev, Ye. D.

S/032/60/036/03/053/064
B010/B117

TITLE: New Construction of the Machine of the Type IP-2 Used to Test Relaxation

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol 36, Nr 3, p 373 (USSR)

TEXT: The machine of the type IP-2 of the TsNIITMASh generally used for creep tests has been modified in order to perform relaxation tests of steel subjected to elongation. The new construction is based, in principle, on the fact that (Fig) the load was removed from the load lever, and connected with an annular dynamometer. The sample is loaded by means of a screw-thread mechanism, deformation being read with an indicator, and load with the indicator of the dynamometer. The constant deformation required is attained by adding additional weights, the additional load (corresponding to damping of the relaxation process) being slowly increased in an interval ranging from some minutes to one hour. There is 1 figure.

ASSOCIATION: Taganrogskiy zavod "Krasnyy kotel'shchik" (Taganrog Plant "Red Boiler Attendant")

Card 1/1

AUTHOR: Kondrat'yev, Ye. D.

S/032/60/036/03/053/064
B010/B117

TITLE: New Construction of the Machine of the Type IP-2 Used to Test Relaxation

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol 36, Nr 3, p 373 (USSR)

TEXT: The machine of the type IP-2 of the TsNIITMASh generally used for creep tests has been modified in order to perform relaxation tests of steel subjected to elongation. The new construction is based, in principle, on the fact that (Fig) the load was removed from the load lever, and connected with an annular dynamometer. The sample is loaded by means of a screw-thread mechanism, deformation being read with an indicator, and load with the indicator of the dynamometer. The constant deformation required is attained by adding additional weights, the additional load (corresponding to damping of the relaxation process) being slowly increased in an interval ranging from some minutes to one hour. There is 1 figure.

ASSOCIATION: Taganrogskiy zavod "Krasnyy kotel'shchik" (Taganrog Plant "Red Boiler Attendant")

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18.3200

78040
SOV/130-60-3-9/23

AUTHORS: Kondrat'yev, Ye. M., Perebeynos, V. F.

TITLE: Design Improvement of Open-Hearth Roof Suspension

PERIODICAL: Metallurg, 1960, Nr 3, pp 13-14 (USSR)

ABSTRACT: In the open-hearth shops of the Stalino Metallurgical Plant (Stalinskiy metallurgicheskiy zavod) a new design of roof suspension was developed (Fig. 1). The authors suggested changing the old suspension unit. Two wedges working on the self-wedging principle and protecting the roof from sagging are shown in Fig. 2. On the basis of long operation, the following advantages were established: (1) The initial fastening of the roof is made after hammering out the supporting forms before primary heating. (2) There is no need for intermediate fastening of the roof during operation between repairs. (3) Considerable economy in hangers and wedges is achieved due to repeated use of them after general overhauling. There are 2 figures.

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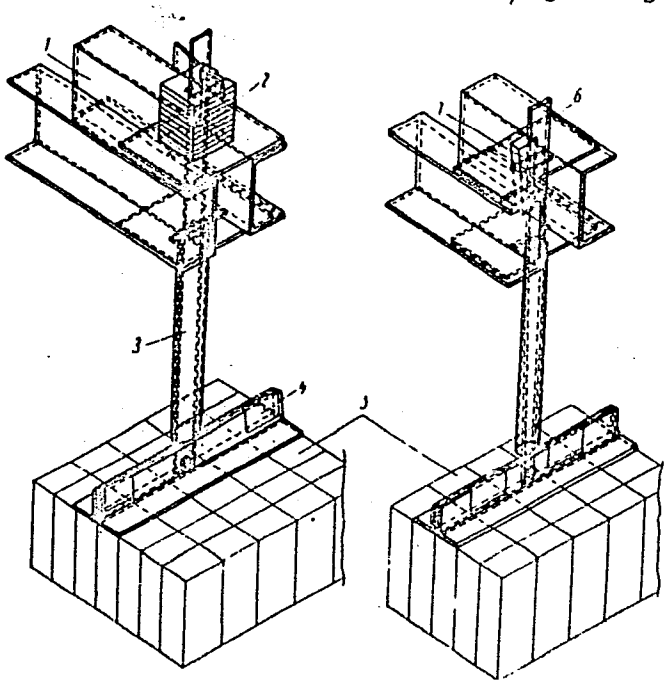
Stalino Metallurgical Plant.

Design Improvement of Open-Hearth Roof Suspension

78040
SOV/130-60-3-9/23



Card ~~2/4~~

Fig. 1.

Fig. 1. Suspended structure of roof supports (left--old design; right--new design). (1) cross channel; (2) lining block; (3) distance tube; (4) supporting angles; (5) roof; (6) wedge-shaped hanger; (7) tightening wedge with a slot.

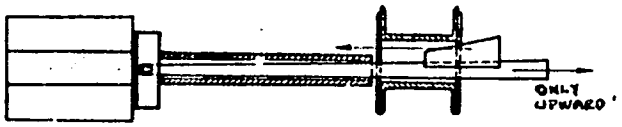


Fig. 2. Diagram of wedge action.

Card 3/4

MOYSEYEVICH, G.I.; KONDRAT'YEV, Ye.M.

Improving the burner flame in the combustion chamber. Metallurg 6 no.2:20-22 F '61. (MIRA 14:1)

1. Stalinskiy metallurgicheskiy zavod.
(Open-hearth furnaces—Design and construction)

ANDON'YEV, S.M.; GLAZKOV, P.G. [deceased]; KUCHIN, V.A.; KONDRAT'YEV, Ye.M.; LEVITASOV, Ya.M.; MAKAROV, K.I.; PANKRATOV, F.V.; PEVNYY, N.I.; POKRAS, L.M.; POCHTMAN, A.M.; TESNER, P.A.; SHEYNFAYN, F.I.; SHKLYAR, T.I.; Prinimali uchastiye: BERMAN, M.N.; VARFALOMEYEV, F.L.; ROBIN, M.A.; MOYSIYEVICH, G.I.; SAPIRO, V.S.; ALEKSEYEV, L.M.; POPOVA, R.S.

Heating Martin furnaces with natural gas using reformers.
Gaz. prom. 9 no.11:14-17 '64. (MIRA 17:12)

KONDRAT'YEV, E. N.

T

COUNTRY :USSR

CATEGORY :Human and Animal Physiology, Circulation

ABS. JOUR. : RZhBiol., No. 5 1959, No. 22097

AUTHOR :Kondrat'ev, E.N.

INST. :--

TITLE :Evaluation of human plethismographic data.

ORIG. PUB. :Byul. eksperim. biol. i med., 1957, No. 1, supplement, 54--57

ABSTRACT : The air-plethismogram of a finger was recorded photometrically, and at the same time time movements of the finger were observed by means of an elastic powdered-carbon reostat, one end of which was fastened to a glass tip attached to a phalanx of the toe, the other to a finger. Respiration was recorded by means of an adjustible laryngophone capsule attached to the subject's chest. During the examination of 22 patients, involuntary movements of the finger were observed as well as deep inspirations, which were reflected in the

Card: 1/2

T-51

KONDRAT'YEV, Ye.N. (Moskva)

Volumetric changes in the blood supply to the finger of the resting hand in man after an increase in the load on the other hand. Biul. eksp. biol. i med. 49 no. 5:15-20 My '60.
(MIRA 13:12)

1. Predstavlena deystvitel'nym chlenom AMN SSSR A.I. Nesterovym.
(FINGERS—BLOOD SUPPLY)

PYATIGORSKIY, M.G., dotsent, kand. tekhn. nauk; KONDRAT'YEV, Ye.T., inzh.

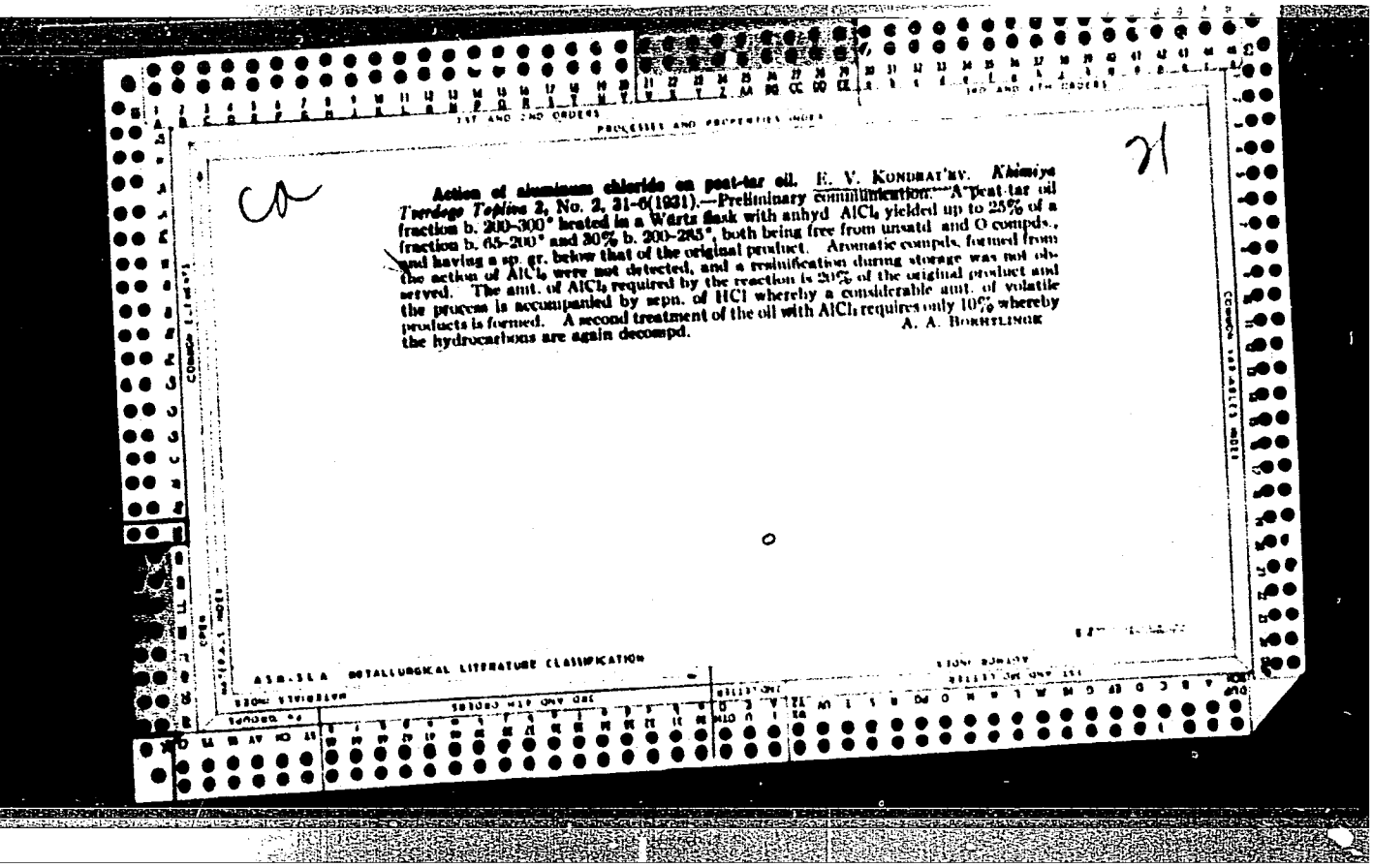
Effect of various methods of heat treatment on the plasticity of Sv. 08G2S steel during drawing. Stal' 24 no.9:848-850 S '64. (MIRA 17:10)

1. Volgogradskiy sel'skokhozyaystvennyy institut.

KOZLOV, K.K.; KONDRAT'YEV, Ye.T.; MELIKHOV, I.S.

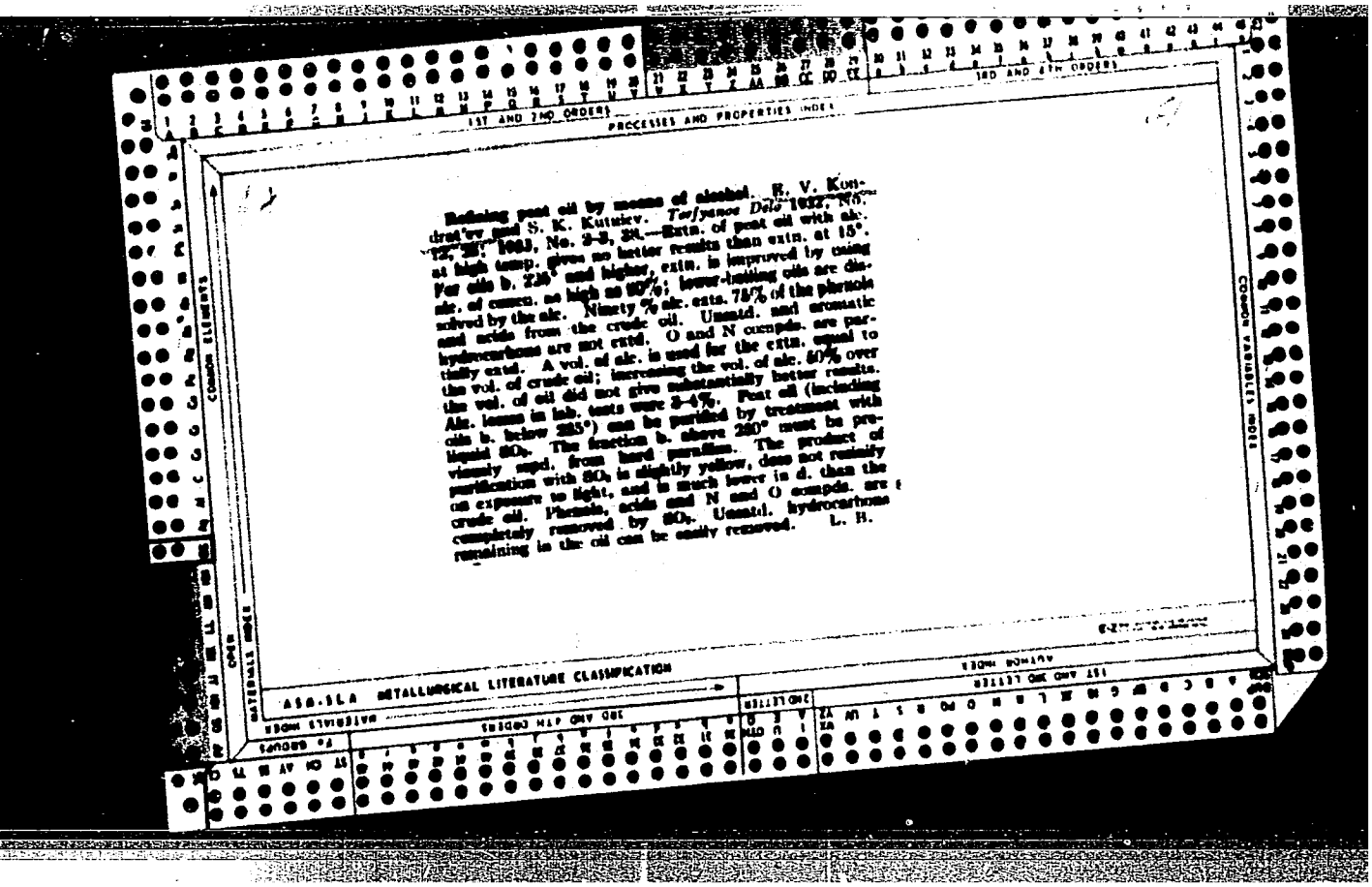
Intermediate transformation of austenite. Metalloved. i term. obr. met. no.4:8-10 Ap '65. (MIRA 18:6)

1. Volgogradskiy zavod "Krasnyy Oktyabr'" i Volgogradskiy sel'skokhozyaystvennyy institut.



Action of aluminum chloride on peat-tar oil. E. V. KONDRAT'EV. *Khimiya Tverdogo Topliva* 2, No. 2, 31-6(1931).—Preliminary communication. A peat-tar oil fraction b. 200–300° heated in a Würtz flask with anhyd $AlCl_3$ yielded up to 25% of a fraction b. 65–200° and 30% b. 200–285°, both being free from unsatd and O compds., and having a sp. gr. below that of the original product. Aromatic compds. formed from the action of $AlCl_3$ were not detected, and a resinification during storage was not observed. The amt. of $AlCl_3$ required by the reaction is 20% of the original product and the process is accompanied by sepn. of HCl whereby a considerable amt. of volatile products is formed. A second treatment of the oil with $AlCl_3$ requires only 10% whereby the hydrocarbons are again decompd.

A. A. BOCHTLINGK



Refining peat oil by means of alcohol. R. V. Kondrat'ev and S. K. Kutukov. *Torfyanoe Delo* 1932, No. 12, 28; 1933, No. 2-3, 28.—Extn. of peat oil with alc. at high temp. gives no better results than extn. at 15°. For oils b. 220° and higher, extn. is improved by using alc. of concn. as high as 80%; lower-boiling oils are dissolved by the alc. Ninety % alc. exts. 75% of the phenols and acids from the crude oil. Unsatd. and aromatic hydrocarbons are not extd. O and N compds. are partially extd. A vol. of alc. is used for the extn. equal to the vol. of crude oil; increasing the vol. of alc. 50% over the vol. of oil did not give substantially better results. Alc. losses in lab. tests were 3-4%. Peat oil (including oils b. below 285°) can be purified by treatment with liquid SO_2. The fraction b. above 280° must be previously sepd. from hard paraffins. The product of purification with SO_2 is slightly yellow, does not resinify on exposure to light, and is much lower in d. than the crude oil. Phenols, acids and N and O compds. are completely removed by SO_2. Unsatd. hydrocarbons remaining in the oil can be easily removed. L. B.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

ca

21

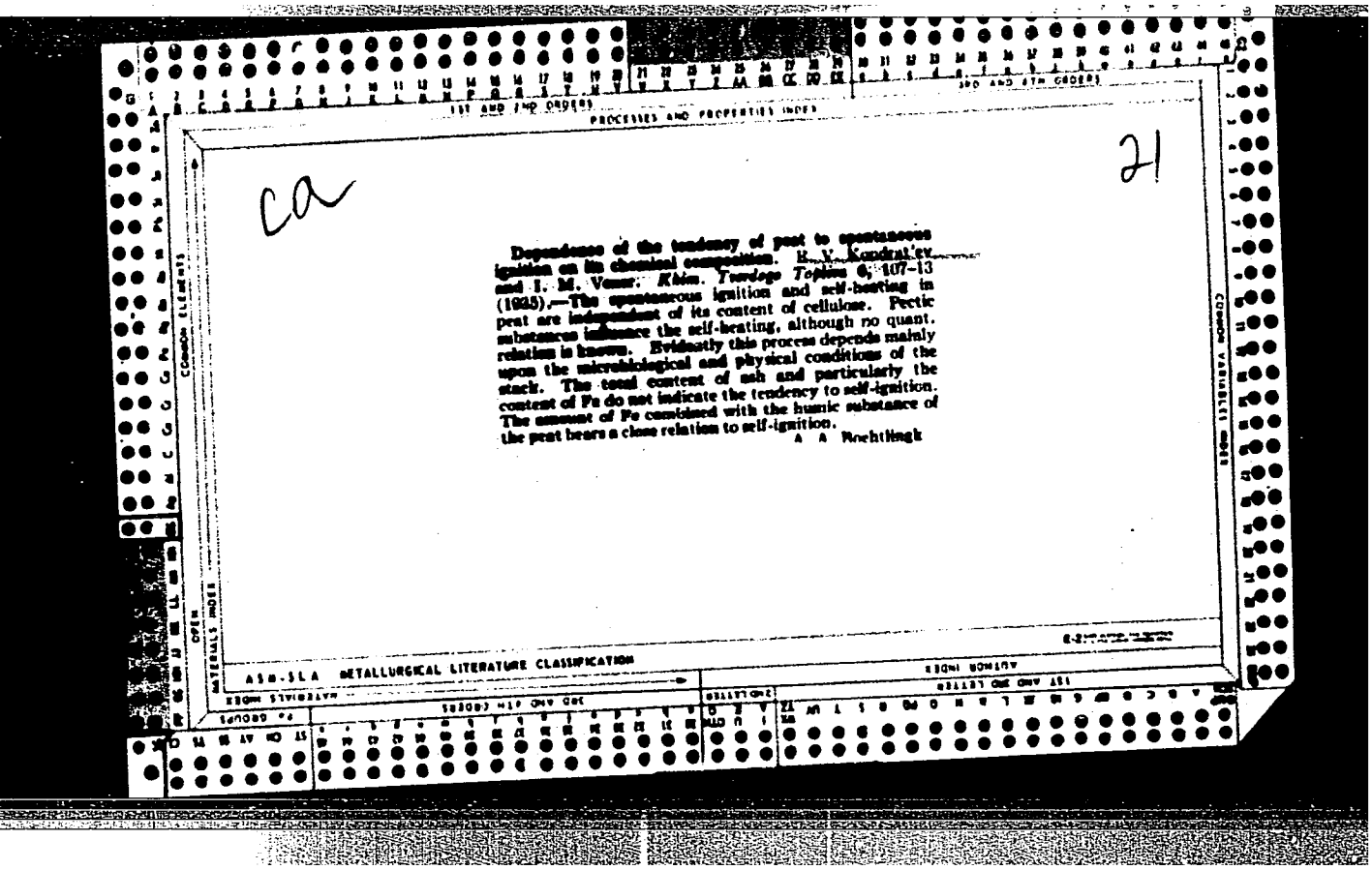
Iron humate. R. V. Kondrat'ev and I. M. Vener.
Khim. Tverdogo Topliva 5, 219-24(1934).—The humic
acid used in the investigation contained: C 54.20,
H 5.19, N 4.70 and OCH_3 2.23%. The Fe humates were
prepd. by (1) pptg. the neutral humate soln. of Na with
the aq. soln. of salts of ferrous or ferric oxide and changing
the proportions of the latter; (2) shaking the humic acid
with $FeCl_3$; (3) shaking the humic acid with an alc. soln.
of $FeCl_3$. The amt. of Fe which combined with the humic
acid fluctuated up to 10% and more. Const. results
were obtained by washing the humate with hot H_2O to
a complete disappearance of the reaction with FeCNS.
In the Fe humate, each hydroxyl combines with about 8 g.
Fe. Apparently, 1 atom Fe combines with 1 mol. of humic
acid. The presence of ferrous Fe accelerates the oxidation
of the humic acid considerably over that with ferric Fe.
The humates obtained by both types of Fe salts are equiv.
in their oxidation ability, which increases with the increase
of Fe in the humate. The intensity of the oxidation of
the humate depends only upon the chemically combined Fe
and is not affected by the total amt. of Fe present as ad-
mixt. A. A. Boehtlingk

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



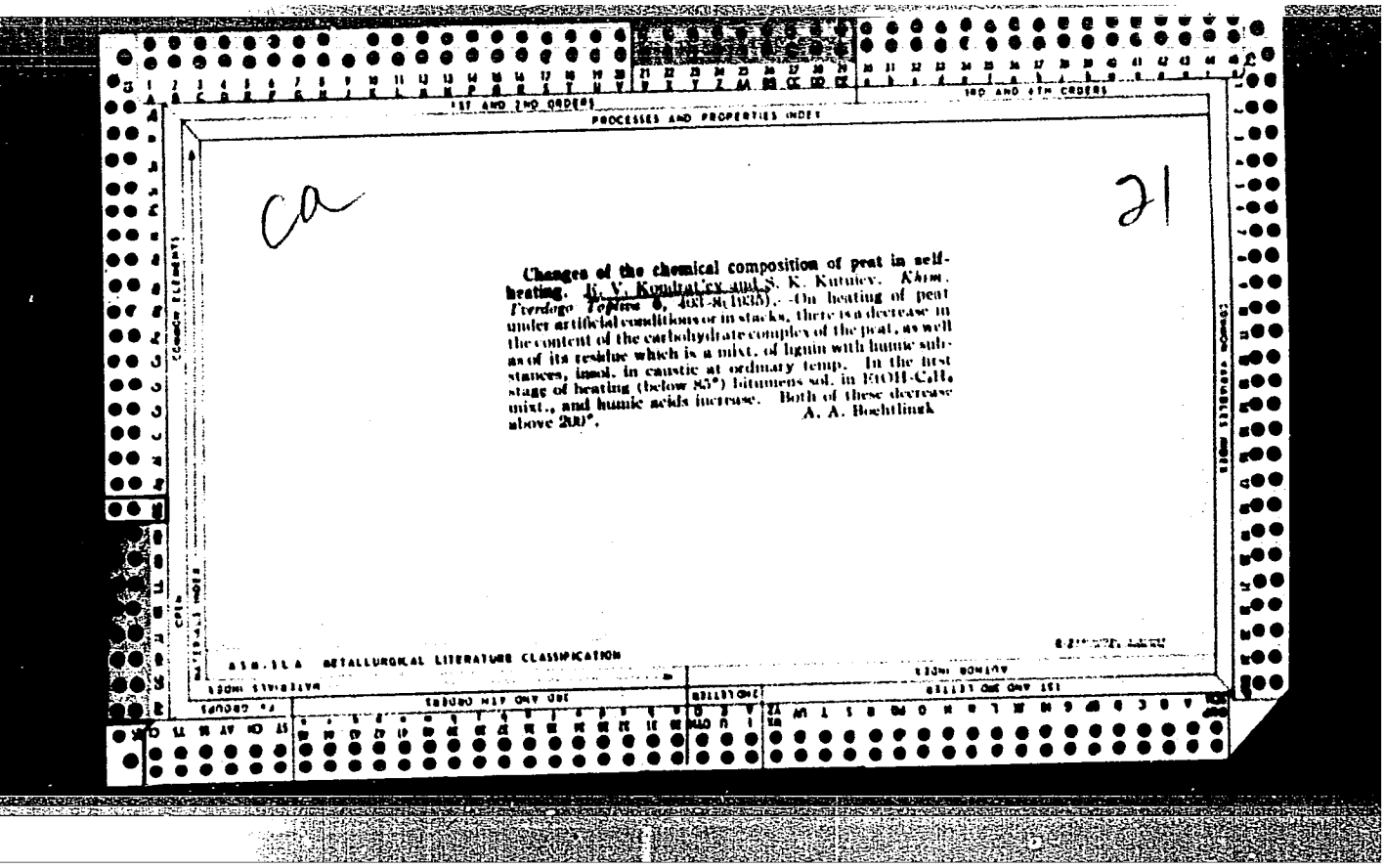
ca

21

Dependence of the tendency of peat to spontaneous ignition on its chemical composition. K. V. Kondrat'ev and I. M. Venur. *Khim. Tverdogo Topliva* 6, 107–13 (1935).—The spontaneous ignition and self-heating in peat are independent of its content of cellulose. Pectic substances influence the self-heating, although no quant. relation is known. Evidently this process depends mainly upon the microbiological and physical conditions of the stack. The total content of ash and particularly the content of Fe do not indicate the tendency to self-ignition. The amount of Fe combined with the humic substance of the peat bears a close relation to self-ignition.

A. A. Rochtchegk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

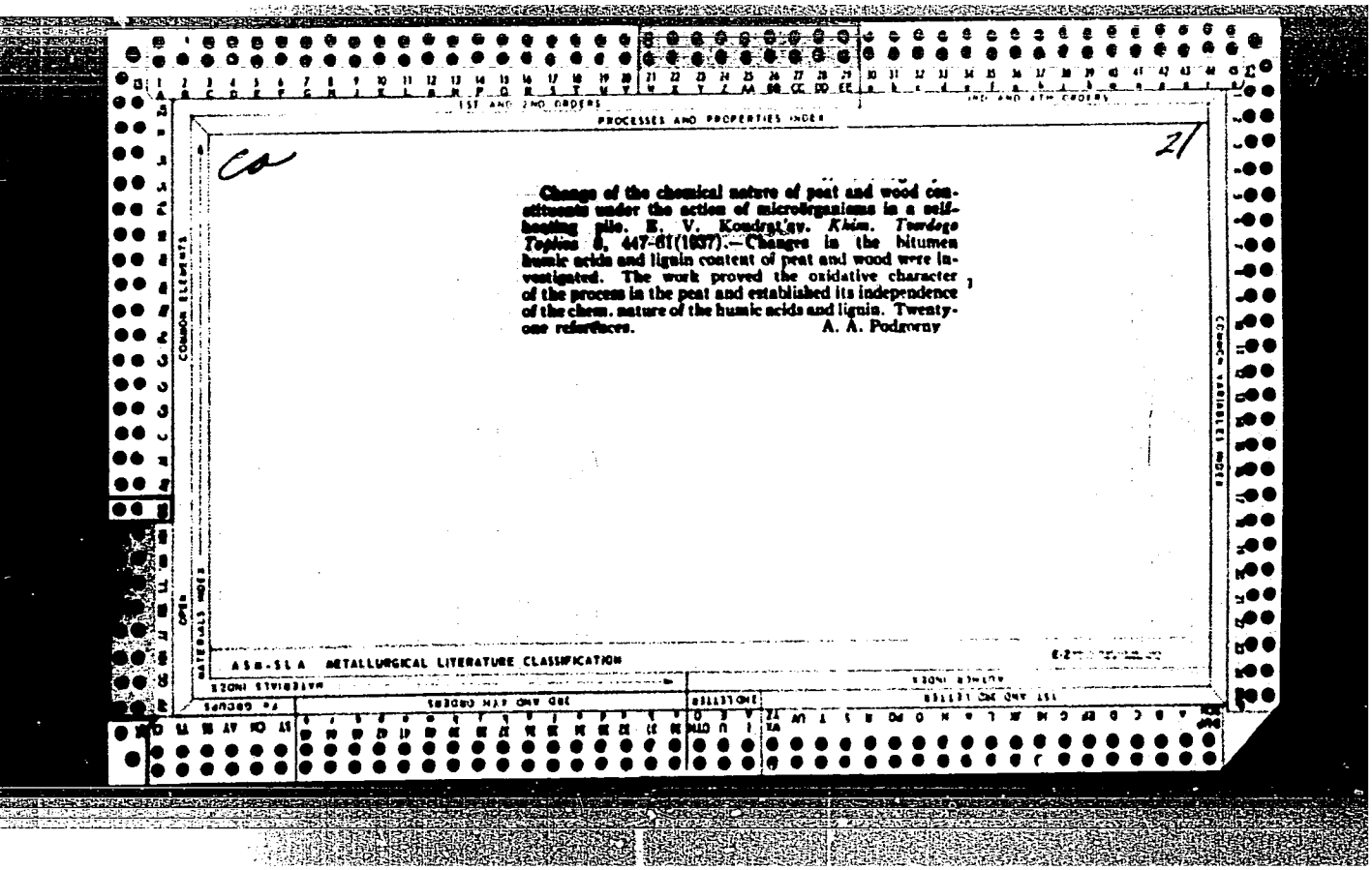


ca

21

Changes of the chemical composition of peat in self-heating. Ig. V. Kondrat'ev and S. K. Kutuiev. *Khim. Tverdogo Topliva* **6**, 161-8(1935).—On heating of peat under artificial conditions or in stacks, there is a decrease in the content of the carbohydrate complex of the peat, as well as of its residue which is a mixt. of lignin with humic substances, insol. in caustic at ordinary temp. In the first stage of heating (below 85°) bitumens sol. in EtOH-C$_6$H$_6$ mixt., and humic acids increase. Both of these decrease above 200°.

A. A. Bochtlingk



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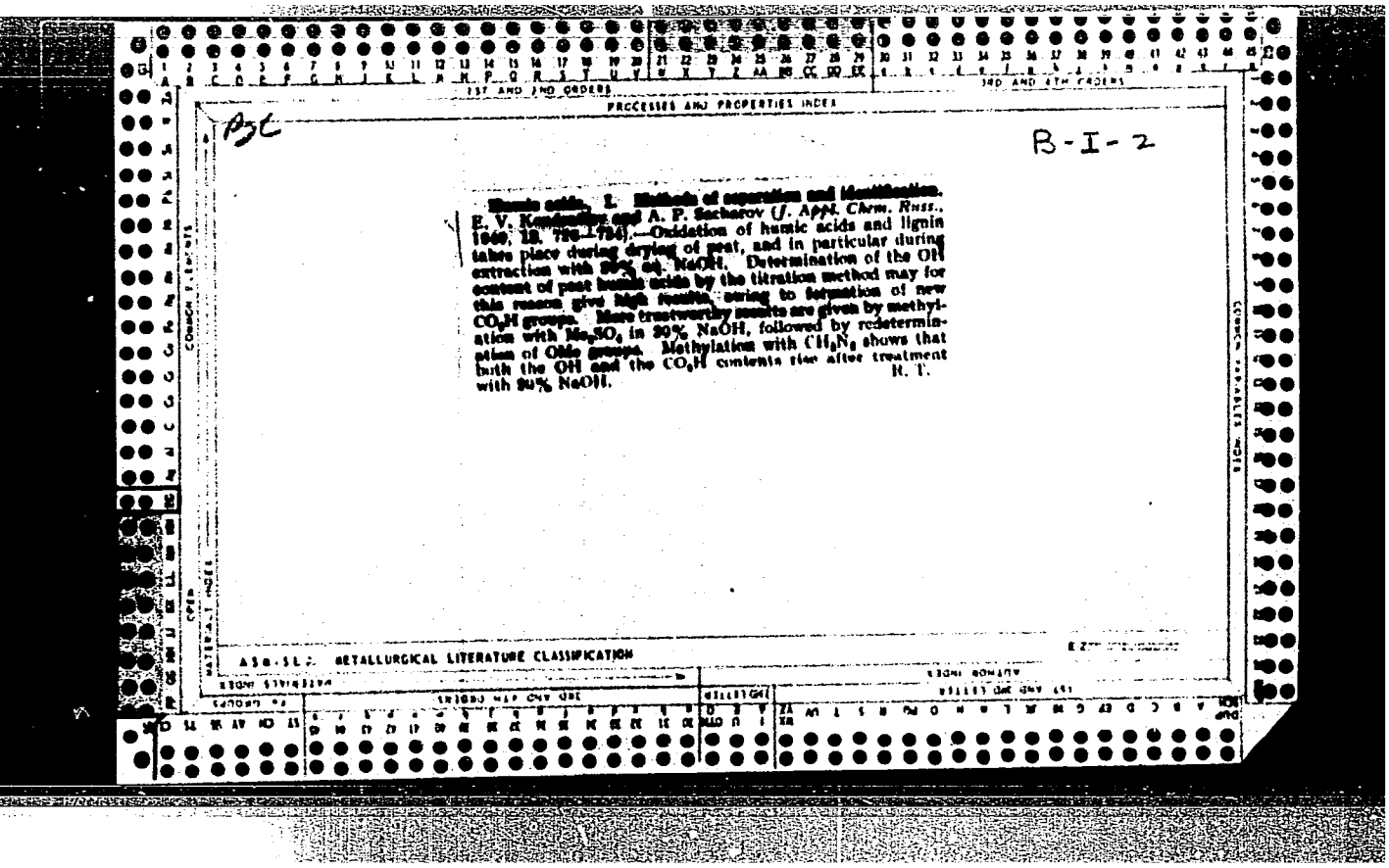
Ca

21

Change of the chemical nature of peat and wood constituents under the action of microorganisms in a self-heating pile. E. V. Kondrat'ev. *Khim. Tverdogo Topliva* 8, 447-61(1937).—Changes in the bitumen humic acids and lignin content of peat and wood were investigated. The work proved the oxidative character of the process in the peat and established its independence of the chem. nature of the humic acids and lignin. Twenty-one references. A. A. Podrezov

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



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B-I-2

Humic acids. I. Methods of separation and identification. E. V. Kondrashova and A. P. Sacharov (*J. Appl. Chem. Russ.*, 1949, 22, 729–734).—Oxidation of humic acids and lignin takes place during drying of peat, and in particular during extraction with 20% aq. NaOH. Determination of the OH content of peat humic acids by the titration method may for this reason give high results, owing to formation of new CO_2H groups. More trustworthy results are given by methylation with Me_2SO_4 in 30% NaOH, followed by redetermination of OMe groups. Methylation with CH_2N_2 shows that both the OH and the CO_2H contents rise after treatment with 30% NaOH. R. T.

A.S.T.M. METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

ca

10

Humic acids. I. Hymatomelanic acid. B. V. Kondrat'ev. *J. Applied Chem.* (U. S. S. R.) 13, 1878-84 (in French, 1884) (1940); cf. *C. A.* 35, 3263[a].—The following hymatomelanic acids were found in various samples of peat and cellulose. $C_{[illegible]}H_{[illegible]}O_{[illegible]}[(OMe)(CO_2H)_2(OH)_2(OH)]$; $C_{[illegible]}H_{[illegible]}O_{[illegible]}[(OMe)(CO_2H)_2(OH)_2(OH)]$(?); $C_{[illegible]}H_{[illegible]}O_{[illegible]}[(OMe)(CO_2H)_2(OH)_2(OH)]$; $C_{[illegible]}H_{[illegible]}O_{[illegible]}[(OMe)(CO_2H)_2(OH)_2]$(?); $C_{[illegible]}H_{[illegible]}O_{[illegible]}[(OMe)(CO_2H)_2(OH)_2(OH)]$; $C_{[illegible]}H_{[illegible]}O_{[illegible]}[(OMe)_2(CO_2H)(OH)_2(OH)]$. Hymatomelanic acids have the same origin as the humic acids and lignin and in their structure they are more closely related to lignin. They are formed from lignin by demethylation and formation of a new carboxyl group. However, both these processes are very slow. 14 references. A. A. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BA

21

The chemistry of peat formers. I Dioxane lignin. V. V. Kaulat'ev (Moscow Peat Inst.) *Zhur. Prikladnoi Khim.* (*J. Applied Chem.*) 22, 783 (1949). Org. matter freed of fractions sol. in CeH6 and boiling H_2O and dried to const. wt. was extd. with dioxane (b. 101–2°) by refluxing on a boiling H_2O bath in the presence of 0.12% HCl (based on the wt. of dioxane). The extn. was repeated twice with 10 times as much dioxane as org. matter by wt. The ext. was filtered, concd. to 1/5 vol., and poured into an excess of Et_2O or H_2O; thus 3 fractions are obtained: (*a*) that which is sol. in dioxane and is pptd. by Et_2O or H_2O, crude lignin; (*b*) that which is insol. in dioxane; and (*c*) that which is sol. in dioxane and is not pptd. by Et_2O or H_2O. Two mosses, *Drepanocladus revolvens* and *Sphagnum subsecundum*, were found to contain no lignin, while ligneous pine and *Eriophorum vaginatum* were found to contain 34 and 30% lignin, resp., relative to the unhydrolyzed ligneous residue. The portion which was insol. in dioxane was complex.

Paul W. Howerton

1951

KONDRAT'YEV, YE. V.

PA 67/49T63

USSR/Chemistry - Bryophytes, Oxidation Aug 49
Sphagnums, Oxidation

"Oxidation of Green Bryophyta and Sphagnums With Hydrogen Peroxide," Ye. V. Kondrat'yev, Chair of Gen Chem, Moscow Med Inst, 4½ pp

"Zur Prik Khim" Vol XXII, No 8

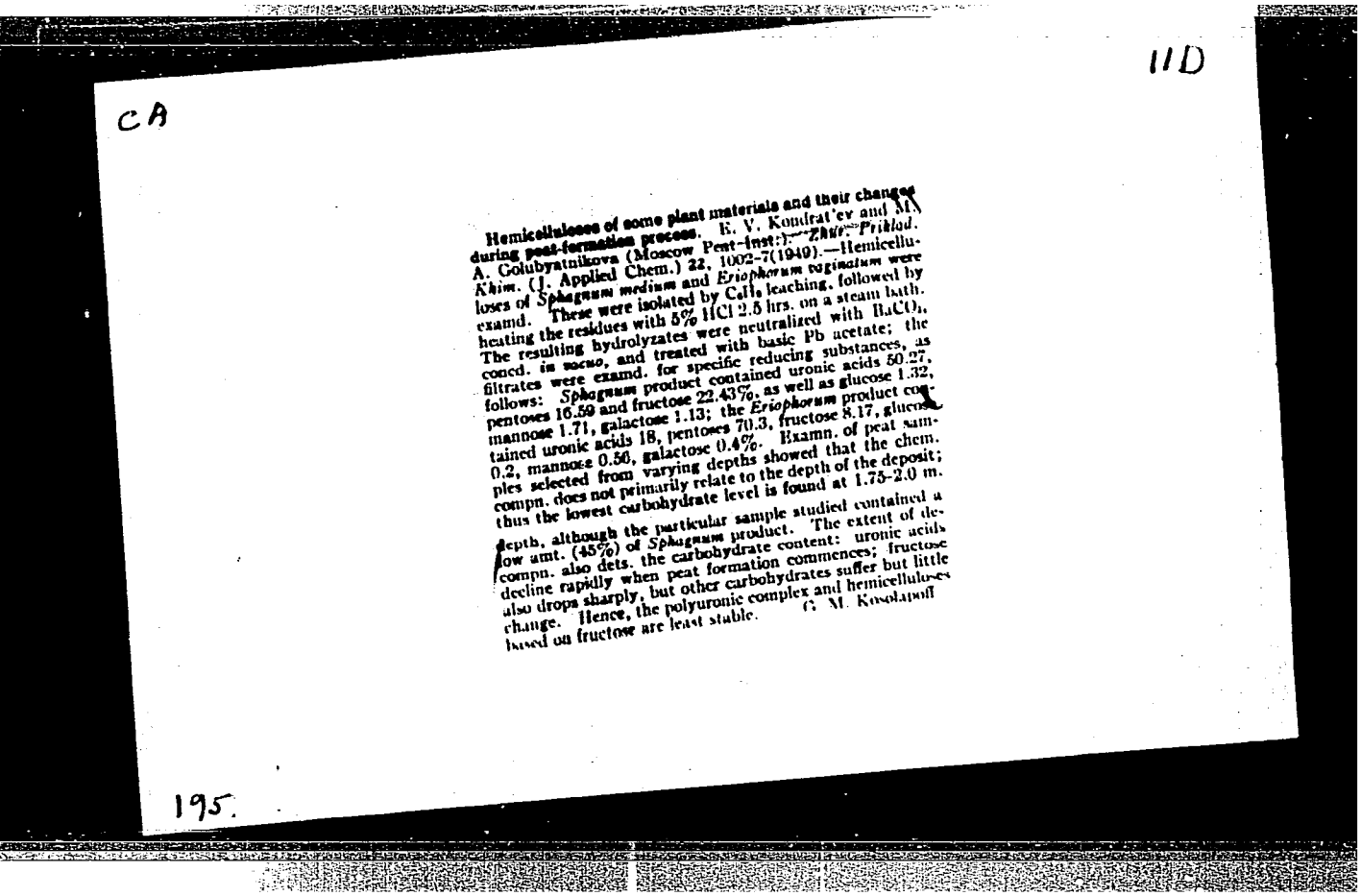
Following the elimination of hemicellulose, a 15% solution of H_2O_2 at room temperature oxidizes almost all substances contained in the Drepanocladus vernicosus and sphagnum subbicolor to form mineral concentrated acid lignin residues. The greater part of these products are soluble, and from them

67/49T63

USSR/Chemistry - Bryophytes, Oxidation Aug 49
(Contd)

xylonic, gluconic, and another (apparently uronic) acids are obtained. The insoluble products which can be hydrolyzed by dilute HCl, contain reducing substances. Aromatic compounds are in evidence among the products of oxidation. These results confirm data obtained by the dioxane method. Submitted 5 Aug 48.

67/49T63



CA

IID

Hemicelluloses of some plant materials and their changes during peat-formation process. K. V. Koudrat'ev and M. A. Golubyatnikova (Moscow Peat Inst.). *Zhur. Prikład. Khim.* (J. Applied Chem.) 22, 1002-7(1949).—Hemicelluloses of *Sphagnum medium* and *Eriophorum vaginatum* were examd. These were isolated by CaH_2 leaching, followed by heating the residues with 5% HCl 2.5 hrs. on a steam bath. The resulting hydrolyzates were neutralized with $BaCO_3$, concd. *in vacuo*, and treated with basic Pb acetate; the filtrates were examd. for specific reducing substances, as follows: *Sphagnum* product contained uronic acids 50.27, pentoses 16.59 and fructose 22.43%, as well as glucose 1.32, mannose 1.71, galactose 1.13; the *Eriophorum* product contained uronic acids 18, pentoses 70.3, fructose 8.17, glucose 0.2, mannose 0.56, galactose 0.4%. Examn. of peat samples selected from varying depths showed that the chem. compn. does not primarily relate to the depth of the deposit; thus the lowest carbohydrate level is found at 1.75–2.0 m. depth, although the particular sample studied contained a low amt. (45%) of *Sphagnum* product. The extent of decompn. also dets. the carbohydrate content: uronic acids decline rapidly when peat formation commences; fructose also drops sharply, but other carbohydrates suffer but little change. Hence, the polyuronic complex and hemicelluloses based on fructose are least stable. G. M. Kosolapoff

195.

CA

A method of analysis of plant materials. R. V. Kondrat'ev and M. I. Kostina (Moscow Med. Inst.). *Zhur. Prikład. Khim.* (J. Applied Chem.) 24, 870–5(1951).—Hydrolysis of plant matter with *N* HCl does not remove all the pentosans and even fails to remove uronic acids. Lignin residues sepd. by concd. mineral acids contain undecompd. pentosans and uronic acids, whose presence accounts for 1 more CO_2H group in lignin. The polyuronide complex, from oxidation of cellulose, is assne 80% undecompd. by concd. H_2SO_4 under conditions of sepn. of lignin with cleavage of CO_2 (*cf. C.A.* 46, 6821b). Methylation of lignin, before and after extn., shows the participation of hemicelluloses in the formation of a lignin residue during hydrolysis with *N* HCl. The isolation of lignin by alk. extn. is also connected with hydrolysis of the carbohydrate complex; this places the natural character of the isolated product in doubt. While 0.5 *N* NaOH extn. from *Eriophorum vaginatum* a product very similar to lignin but devoid of MeO groups, most of it remains insol. in the alk. soln.

G. M. Kosolapoff

KONDRAT'YEV, Ye.V.

KONDRAT'YEV, Ye.V.; KOSTINA, M.I.

Reproducing the process of peat formation under artificial conditions.
Soob.o nauch.rab.chl.VKHO no.1:26-31 '55. (MIRA 10:10)
(Peat)

KONDRAT'YEV, YE. V.

AID P - 3748

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 12/22

Authors : Kondrat'yev, Ye. V. and M. I. Kostina

Title : Disintegration of organic matter in plant material under artificial conditions

Periodical : Zhur. prikl. khim. 28, 9, 982-988, 1955

Abstract : Formation of peat under experimental conditions resembling natural conditions has been studied by observing the transformation of various plants, (bushes, grass, and moss). Three tables, 2 diagrams, 3 references, all Russian (1934-1953).

Institution : Department of General Chemistry of the Moscow Steel Institute im. I. V. Stalin

Submitted : D 15, 1953

KONDRAT'YEV, Ye.V., prof.; FRIDENBERG, Ye.E., ass.

[Hydrolysis] Gidroliz; uchebnoe posobie. 2. izd. Moskva, Mosk. in-t stali i splavov. 1962. 15 p. (MIRA 16:11)

(Hydrolysis)

KO[DRAFT]EV, Ye. Ye.

"Prognosis of Influenza Outbreaks," Tr. In-ta Epidemiol Mikrobiol, i Gigiyeny im. Pastera i In-ta Eksperim. Meditsiny Akad. Med. Nauk SSSR, 1953, 15, pp 175-182

In analyzing statistical data, the author noticed the regular cyclic nature of influenza outbreaks, a fact which makes it possible to predict the time when the next outbreak will occur. The cyclic nature of the epidemics is evidently dependent upon changes in the environment of the virus which occur in a specific order, and which are caused by the reactions of the macroorganism to seasonal variations and to the vital activities of the virus itself. This leads to profound changes in the antigen structure of the causative organisms, and, in the opinion of the author, even the transformation of type A into type B, which explains the alteration of the types of virus in successive epidemics. (RZhBiol, No 5, 1955) SO: Sum.No. 713, 9 Nov 55

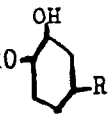
SOV/153-58-2-14/30

5(3)

AUTHORS: Smirnova, T. V., Dukel'skaya, N. M., Kondrat'yev, [illegible] A.

TITLE: Synthesis of Some Physiologically Active Substances (Sintez nekotorykh fiziologicheski aktivnykh veshchestv)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp 82-86 (USSR)



ABSTRACT: It is known from literature that compounds of the type RO- where R = CH_3-, C_2H_5-, C_4H_9-, C_3H_7-, are physiologically active and exert an insecticidal effect (Ref 1). It was found that the introduction of such groups as OH and OR into the molecule of an organic compound provide this substance with physiological activity. For instance, if the -OH-group is introduced into the nucleus of an aromatic compound, this compound is often provided with a protoplasmatic effect; the introduction of -OR, on the other hand, increases the effect exercised by the resulting compound upon the nervous system. If a halogen atom is introduced into the molecule of an organic compound the physiological activity of the latter is multiplied, particularly in the case of fluorine introduction (Ref 3).

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The purpose of this paper was the synthesis of some physiologically active compounds which are used for deratization. 6 halogen derivatives of phenyl ether were produced (Table 1). All these compounds were synthesized according to the same method (see experimental section). The halogen derivatives of phenols or the phenol itself were condensed with the corresponding 1,2-dihalide-ethane. In the laboratory of the faculty mentioned under "Association" the toxic properties of the synthesized phenyl-ethyl ether were tested. The most toxic compound was p-chloro-phenyl-β-fluoroethyl-ether which was able to kill within 3-7 hours 100% of adult rats if administered perorally in a dosage of 0,005 ml. All of the 6 compounds listed possess a strong etheric odor which complicates their use in deratization. In order to overcome this difficulty, the synthesis of p,p'-di(β-fluoro-ethoxy-phenyl)-dimethyl-methane was carried out. This is a solid odorless compound and has stood its test. Its lethal dosis for white rats is 120-140 mg/kg, for voles - 0,25 mg/100 g live weight. Thus it is valuable also in the destruction of rodents in the fields. There are 2 tables and 5 references, 3 of which are Soviet.

Synthesis of Some Physiologically Active Substances SOV/153-58-2-14/30

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut imeni D. I. Mendeleyeva i Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M. V. Lomonosova (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev and Faculty of Biology and Soil-Science of the Moscow State University imeni M. V. Lomonosov)

SUBMITTED: October 4, 1957

Card 3/3

IVIN, S.Z.; KONDRAT'YEV, Yu.A.; SHELAKOVA, I.D.; ZAYSHLOVA, I.A.; GUBENKO, I.I.

Reactivity of ethylenamide-O-alkylmethyl phosphinates and thio phosphinates. Zhur. ob. khim. 35 no.7:1218-1220 Jl '65. (MIRA 18:8)

KONDRAT'YEV, [illegible], KONDRAT'YEV, Yu.G.

Spore-pollen spectra from Middle Jurassic sediments in the Kuryanovsk trough. Geol. i geofiz. no.4:157-159 '65. (MIRA 18:8)

1. Krasnoyarskoye geologicheskoye upravleniye.

Card 1/2

ACC NR: AT6036464

was tested. Weight, external appearance, behavior, and appetite were observed. Assimilation of basic substances, the nitrogen balance, the composition of hemoglobin and erothrocytes in the blood, and certain biochemical indices were determined.

Pathological examination of the animals was perfomed and individual internal organs were weighed. In experiments where unicellular algae were used as the source of protein, the average duration of viability was 5.5 months. When animals were fed only the biomass of the algae, they lived only about one month. Death results from malnutrition. Experiments showed that greatest nutritional value was provided when the biomass of unicellular algae was augmented by an increased amount of cysteine. The least value was provided by biomass of yeasts. The nutritional value of the purified biomass of microbacteria was higher than that of the unpurified biomass. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 2/2

ABAKUMOVA, I.A.; AKIMEBININSKIY, K.S.; BYCHKOV, V.P.; DEMOCHKINA, N.G.; KONDRAT'YEV, Yu.I.; USHAKOV, A.S.

Some data on a group of animals in a closed ecologic system. Probl. kosm. biol. 4:107-118 '65. (MIRA 18:9)

L 45964-66 JXT(CZ)/GD/RD

ACC NR: AT6030694 SOURCE CODE: UR/0000/66/000/000/0023/0028

AUTHOR: Bychkov, V. P.; Boyko, N. N.; Kasatkina, A. G.; Kondrat'yev, Yu. F.; Ushakov, A. S.

ORG: none

TITLE: The possibility of using dehydrated products in cosmonaut diets

SOURCE: Konferentsiya po kosmicheskoy biologii i meditsine, 1964. Materialy. Moscow, Inst. mediko-biol. problem, 1966, 23-28

TOPIC TAGS: space biology, space food, human physiology, nutrition, biologic metabolism

ABSTRACT: Experiments were conducted to study the effects of dehydrated food rations on human metabolism. Freeze-dried and heat-dried food products were used to make up three different rations, with caloric values from 2117 to 2974 kcal. The food was eaten dry, but could be washed down with unlimited amounts of water. Among the foods used were freeze-dried meat products (pork and beef sausage, beef roll, ham and smoked pork), dried milk products (a 5:5:11:1 mixture of cream, walnuts, milk, and sugar, and a 5:5:1 mixture of pot cheese, cream, and sugar), and candy and pastry, (vitaminized caramels, lemon drops, etc). Biomedical monitoring of the six healthy subjects was conducted throughout the experiment, and each subject kept a medical journal. In the first test, laboratory workers were fed normally

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for 10 days, and then for 20 days ate equivalent amounts of the same foods, dried, (Ration No.1, see Table 1) while performing their normal tasks. In the second test

Table 1. Weight, chemical composition, and caloric value of food rations

Number of ration	Weight in g	Moisture in g	Protein in g	Fat in g	Carbohydrate in g	Ash in g	Caloric value in kcal
1	609	43.4	112.3	93.2	339.0	21.1	2117
2	638	34.4	118.1	111.4	354.7	19.40	2974
3	615	51.6	107.8	106.6	326.1	22.90	2770

one subject was fed Ration No.2 and water regenerated from urine for 35 days. He remained in a small chamber (7 m^3), where normal atmospheric and microclimatic conditions were maintained; his day was divided into sleep (8 hr), exercise (35—40 min), meals (three per day), and drafting work and reading (specially selected literature). In the third test two subjects stayed in a similar chamber for 33 days, during which time they were fed Ration No.3 for 22 days and normal food in the 11 days before and after. One received water regenerated from urine and the other distilled water. The system of biosensors was also tested in this experiment. In addition to sleep and exercise periods (8 hr and 35—40 min, respectively), and meals, the subjects' time was occupied in recording physiological functions using the sensors.