BEREZIN, O.A.

Conductive-gas flow in a magnetogasdynamic generator [with summary in English]. Vest. LGU no.13:93-102 '61. (MIRA 14:7)
(Magnetohydrodynamics)

BEREZIN, O. A.

Cand Phys-Math Sci, Diss -- "Certain non-steady and steady movements of a conducting medium in a magnetic field". Leningrad, 1961. 9 pp, 20 cm (Leningrad Order of Lenin State U imeni A. A. Zhdanov), 180 copies, Not for sale, 16 ref in bibl on pp 8-9 (KL, No 9, 1961, p 174, No 24246). [61-523337

Flow of conductive gas...

Fourier series. On more rigorous formulation of the problem, the author seeks a vector potential $A_0(x,z)$ such that its derivative $\frac{\partial A_0}{\partial x}$ changes with x according to a nearly-sinusoidal law and approaches zero fast together with $\frac{\partial A_0}{\partial z}$, when $x \to \pm \infty$. The boundary conditions are set for $x = -\infty$, and not for $x = 0$. The flow of a viscous, incompressible, poorly conductive fluid between 2 parallel plates in a traveling magnetic field can be treated by an analogous method. Under certain conditions, this leads to the Hagen-Poiseuille flow. The solutions are sought in the form of a series. There are 1 figure and 6 Soviet-bloc references.

Card 3/3

S/043/61/000/003/004/008
D201/D305

Flow of conductive gas...

$$\frac{A}{\sqrt{4\pi\mu}} = -E_0 t + A_0(x,z) + \sum_{n=1}^{\infty} \frac{A_n(x,z)}{\nu_m^n}, \quad v_x = V_0 + \sum_{n=1}^{\infty} \frac{u_n}{\nu_m^n},$$

$$v_z = \sum_{n=1}^{\infty} \frac{v_n}{\nu_m^n}, \quad P = P_0 + \sum_{n=1}^{\infty} \frac{P_n}{\nu_m^n}, \quad \rho = \rho_0 + \sum_{n=1}^{\infty} \frac{\rho_n}{\nu_m^n}, \qquad (1)$$

where A is the vector potential, V_0, ρ_0 and P_0 are constants, E_0 = constant is the electric field-strength along the y-axis. Using Eq. (1) the differential equations are set up. The flow under consideration is supersonic. For simplicity, gas flow in a generator with independent excitation is considered. The flow picture is as follows. Without flow, the magnetic field in the generator is symmetrical with respect to the axis of the poles. Once the gas flows between the poles, an electrical current is generated which induces an additional magnetic field. The formula for the magnetic flux is given. The boundary conditions are set up and the differential equations are solved. The solutions are expressed by d'Alembert's formula. The solutions can also be obtained in the form of

Card 2/3

S/043/61/000/003/004/008
D201/D305

26.1410

AUTHOR: Berezin, G.A.

TITLE: Flow of conductive gas in a magneto-gasdynamic generator

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii, no. 3, 1961, 93-102

TEXT: A two-dimensional stationary flow is considered of a non-viscous, non-heat-conductive, magnetism and electricity conductive gas from a stationary source; i.e. it is assumed that, for sufficiently large time t, the gas flow in the magneto-gasdynamic generator is nearly steady-state. All the hydrodynamic and magnetic quantities involved are time independent. The problem is solved by the small-parameter method; the parameter is: $\delta = 4\pi\mu\sigma$ (σ is the conductivity of the medium; $\delta = 1/\nu_m$) as cited by G.M. Bam-Zelikovich (Ref. 3: Dvizheniye osesimmetricheskoy strui gaza v osesimmetricheskom magnitnom pole. DAS SSSR, 131, no. 1, 1960). The solution of the magneto-gasdynamics equations is sought for in the form:

Card 1/3

Some Simulated Gas Motions With Plane Waves in Magnetic Hydrodynamics

S/020/60/133/02/12/068
B019/B060

SUBMITTED: January 28, 1960

/C

Card 3/3

Some Simulated Gas Motions With Plane Waves in Magnetic Hydrodynamics

S/020/60/133/02/12/068
B019/B060

the motion of a conductive medium in a tube with velocity V in the presence of a residual magnetization of the poles of a magnetic conductor between the plates, there acts an electromotive force which is proportional to the velocity V and the magnetic flux. When these plates are connected by means of an exciting coil, the magnetic flux grows. If the losses in the electric circuit are neglected, the field strength between the poles increases. If they are taken into account, the field strength attains a limit. With the aid of L. I. Sedov's pulse integral, the author studied the acceleration process of the conducting medium. The motion of the conducting medium is explained by the Lenz law, and for the case under investigation it is found that an unsteady motion of the conducting medium stemming from a stationary source takes place in the tube. There are 1 figure and 5 Soviet references.

ASSOCIATION: Institut elektromekhaniki Akademii nauk SSSR (Institute of Electromechanics of the Academy of Sciences, USSR)

PRESENTED: March 20, 1960, by L. I. Sedov, Academician

Card 2/3

BEREZIN, O.A.

S/020/60/133/02/12/068
B019/B060

AUTHOR: Berezin, O. A.

TITLE: Some Simulated Gas Motions With Plane Waves in Magnetic Hydrodynamics

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 2, pp. 296-298

TEXT: The author proceeded from the system of equations (1) for the one-dimensional unsteady motion of an ideal gas in a transverse field with infinitely high conductivity and negligible viscosity and heat conductivity, to construct the flow stemming from a plane nonstationary source. The intensity of this source changes according to (5). The author obtains equation (8) which, for certain parameters, corresponds to the Bernoulli equation or the Darboux equation, respectively. The device shown in Fig. 1 is used to study the intensification of the magnetic field in a hydromagnetic dynamo with the aid of the particular solutions (2) of the system (1). The principle of this device is that on

VC

Card 1/3

BEREZIN, O.A. (Leningrad); GRIB, A.A. (Leningrad)

Irregular reflection of a plane shock wave from a free surface in water. PMTF no.2:34-39 Jl-Ag 60. (MIRA 14:6)
(Shock waves) (Hydrodynamics)

89503

S/043/60/000/001/009/014
C 111/ C 333

On a particular solution of the . . .

intensity $h_1 = h_1^0 - P_1(x_2)$ is considered.

A. G. Kulikovskiy is mentioned in the paper.

There are 4 Soviet-bloc references.

Card 5/5

On a particular solution of the . . .

If the magnetic field is absent ($c_4=0$), then one obtains

$$u = \frac{x}{t} - \frac{c_2}{2-k} t^{1-k}, \quad \rho = t^{-1} \frac{dF}{d\xi},$$
$$P = c_2 t^{-k} F\left(\frac{x}{t} - \frac{c_2 t^{1-k}}{(k-1)(2-k)}\right). \qquad (8)$$

The solution (8) is conjugated with the shock wave propagating with velocity $c = \frac{dx_2}{dt}$ in motionless gas in the medium with some initial density $\rho_1(x_2)$, pressure $P_1(x_2)$. The functions $\rho_1(x_2)$ and F as well as the law of propagation of the shock wave are determined from the conditions of dynamical compatibility.

In the second example of application the author considers the solution (2) and takes a shock wave propagating in resting gas with velocity $c = \frac{dx_2}{dt}$, where, besides $P_1(x_2)$, $\rho_1(x_2)$, the magnetic

On a particular solution of the . . .

$$\frac{1}{R}\frac{dP}{d\xi} = c_1\xi + c_2, \quad \frac{1}{R}\frac{dS}{d\xi} = c_3\xi + c_4.$$

The given solution can be used for investigating a piston which is displaced according to the law

$$x_* = f\varphi \quad . \tag{5}$$

We have

$$\varphi = \frac{c_2 t^{1-k}}{(k-1)(2-k)} + c_4\frac{\ln t}{t}, \quad x_* = \frac{c_2}{(k-1)(2-k)} t^{2-k} + c_4 \ln t \tag{6}$$

for $c_1 = c_3 = 0$, $f = t$. The corresponding solutions of (2) then have the form

$$u = \frac{x}{t} - \frac{c_2}{2-k} t^{1-k} - \frac{c_4}{t} \ln \frac{t}{e}$$

$$\rho = t^{-1}\frac{dF}{d\xi}, \quad P = c_2 t^{-k} F(\xi), \quad h = c_4 t^{-2} F(\xi), \tag{7}$$

where F is an arbitrary function.

Card 3/5

On a particular solution of the . . .

where $h = \frac{H^2}{8\pi}$, H -- magnetic intensity orthogonal to the flow. (1)

possesses the particular solution

$$u = x\frac{\dot{f}}{f} + f\dot{\varphi} \; ; \quad \xi = f^{-1}R(\xi) \tag{2}$$

$$P = f^{-k}P(\xi), \; h = f^{-2}S(\xi);$$

$$\frac{\partial^2 f}{\partial t^2} + c_1 f^{-k} + c_3 f^{-2} = 0, \tag{3}$$

$$\frac{d^2}{dt^2} f\varphi + c_2 f^{-k} + c_4 f^{-2} = 0$$

where c_1, c_2, c_3 and c_4 are arbitrary constants; R, P and S - - functions of the argument $\xi = \frac{x}{f} - \varphi$ which are connected by the relations

89503
S/043/60/000/001/009/014
C 111/ C 333

16.7600

AUTHOR: Berezin, O. A.

TITLE: On a particular solution of the equations of magnetic gas dynamics

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii, no. 1, 1960, 107-110

TEXT: The equations of magnetic gas dynamics have, under infinitely high conductivity, negligibly small viscosity and heat conductivity, the form

$$\frac{\partial u}{\partial t} + u\frac{\partial u}{\partial x} + \frac{1}{\rho}\frac{\partial}{\partial x}(P + h) = 0,$$

$$\frac{\partial \rho}{\partial t} + u\frac{\partial \rho}{\partial x} + \rho\frac{\partial u}{\partial x} = 0,$$

$$\frac{\partial h}{\partial t} + u\frac{\partial h}{\partial x} + 2h\frac{\partial u}{\partial x} = 0, \qquad (1)$$

$$\frac{\partial}{\partial t}\frac{P}{\rho k} + u\frac{\partial}{\partial x}\frac{P}{\rho k} = 0,$$

Card 1/5

Some Partial Solutions of the Equations of the Onedimensional Unstable Motion of Gas

SOV/43-59-1-16/17

$$\zeta = -\frac{n+(k-1)N}{k-n+1} \quad \text{and}$$

$$\int \frac{df}{\sqrt{c_1 + \frac{2c_2}{(k-1)(N+1)} f^{-(k-1)(N+1)}}} = \pm (t + t_0) \ .$$

The given solutions depend on 5 free constants.
The author uses methods of K.P. Stanyukevich and L.I. Sedov and thanks Professor S.V. Valander for advices.

SUBMITTED: October 29, 1958

Card 2/2

10(2)

AUTHOR: Berezin, O.A. SOV/43-59-1-16/17

TITLE: Some Partial Solutions of the Equations of the Onedimensional Unstable Motion of Gas (Nekotoryye chastnyye resheniya uravneniy odnomernogo neustanovivshegosya dvizheniya gaza)

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1959, Nr 1(1), pp 145-149 (USSR)

ABSTRACT: The author seeks particular solutions of the unidimensional equations of motion of an ideal gas which possess the form

$$u = r\frac{\dot{f}}{f} + \frac{r^{\alpha}}{1-\alpha} f^{1-\alpha}\frac{d\varphi}{dt}$$

where it is $f = f(t)$, $\varphi = \varphi(t)$. For ϱ and P then it results

$$\varrho = r^{-(N+\alpha)} f^{\alpha-1} \cdot F(\xi) \quad , \quad P = r^{-k(N+\alpha)} f^{k(\alpha-1)} \phi(\xi) \ ,$$

where F and ϕ are known functions of $\xi = (\frac{r}{f})^{1-\alpha} - \varphi$.

For plane waves it is N = 0, for cylindrical waves N = 1, for spherical waves N = 2. Here it is

Card 1/2

REREZIN, N.V., inzhener; FINKEL'SHTEIN, B.Ya., inzhener; ABRAMOVICH, I.I., professor, laureat Stalinskoy premii, retsenzent; STOLYAROV, N.T., inzhener, redaktor; SOKOLOVA, T.F., tekhnicheskiy redaktor

[Hoisting and conveying machinery; construction and technology of production] Pod"emno-transportnye mashiny; konstruktsiia i tekhnologiia proizvodstva. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1951. 460 p. (MLRA 9:10)

(Hoisting machinery) (Conveying machinery)

BENSON, Mikhail Il'ich, inzh.; BEREZIN, Nikolay Tikhonovich, inzh.; GURNI, Varvara Pavlovna, kand. tekhn.nauk; LYUBOVSKIY, Grigoriy Abramovich, inzh.; MARTIROSYAN, Yelena Mikirtychevna; PROGOROVICH, Anna Lazarevna, kand. tekhn. nauk; SIMONOVA, Irina Mikhaylovna, inzh.; YEFREMOVA, M.N., red.; GOLOVINA, N.Z., red.; AKSEL'ROD, I.Sh., tekhn. red.

[English-Russian dictionary of the food industry] Anglo-russkii slovar' po pishchevoi promyshlennosti. Moskva, Fizmatgiz, 1963. 570 p. (MIRA 17:1)

BEREZIN, N.T.; ZAGORYANSKIY, A.D.

Fishes. Zdorov'e 5 no.11:22-23 N '59. (MIRA 13:3)
(Fish as food)

BEREZIN, N.T.

PUGACHEV, I.A., glavnyy red.; ANDRUSEVICH, D.A., red.; ARKHANGEL'SKIY, N.A., red.; BEREZIN, N.T., red.; VINOGRADOV, A.P., red.; GERASIMOV, M.A., red.; KLASSEN, I.A., red.; LIFSHITS, M.O., red.; MANNBERGER, A.A., red.; METLITSKIY, L.V., red.; POPOV, V.I., red.; SMIRNOV, V.S., red.; STROGOV, N.I., red.; SHAUMYAN, L.S., red.

[Dictionary of commercial products] Tovarnyi slovar'. Glav. red. I.A.Pugachev. Chleny glav.red. D.A.Andrusevich i dr. Moskva, Gos. izd-vo torg. lit-ry. Vol. 3. Igla ryba - kombikorma. 1957. 998 p. (MIRA 11:4)

(Commercial products--Dictionaries)

BEREZIN, N.T., glavnyy tekhnolog

Consultation. Vop.pit. 15 no.2:63 Mr-Ap '56. (MLRA 9:7)

1. Tekhnicheskoye upravleniye Ministerstva rybnoy promyshlennosti
(FISHERY PRODUCTS--PRESERVATION)

LAZARENVSKIY, Aleksey Anatol'yevich; BEREZIN, N.T., retsenzent; NOVIKOV, V.M., retsenzent; MAKAROVA, T.I., kandidat tekhnicheskikh nauk, redaktor; MOROZOVA, I.I., redaktor; GOTLIB, E.M., tekhnicheskiy redaktor.

[Technical and chemical control in the fish processing industry; manual for workers in plant and research laboratories] Tekhnokhimicheskii kontrol' v ryboobrabatyvaiushchei promyshlennosti; posobie dlia rabotnikov zavodskikh i issledovatel'skikh laboratorii. Moskva, Pishchepromizdat, 1955. 518 p. (MLRA 9:5)
(Fishery products)

BEREZIN, N.T.

Separation of ruff from herring by a hydraulic process
Ryb. khoz., 28, no. 3, 1952

BEREZIN, N.T.

Serious errors in B.V. Zikeev's "Prodessing sea and freshwater non-fish products"
Ryb. khoz 28,no. 2, 1952

Berezin, N.T.

LAGUNOV, L.L.; BUKIN, V.N.; BEREZIN, N.T.; PROZOROVSKAYA, M.K.

Hydrolytic method of producing vitamin-containing fish oils. Vit. res. i ikh isp. no.1:22-70 '51. (MLRA 8:12)
(FISH OIL) (VITAMINS)

1. BEREZIN, N.T.

2. USSR (600)

4. Agriculture

7. Industrial processing of fish. Izd. 4. Moskva, Pishchepromizdat, 1951

9. Monthly List of Russian Accessions. Library of Congress, February, 1953.Unclassified

BEREZIN, N T

PROMYSLOVAYA OBRABOTKA RYBY (Processing of Fish at Fisheries - Textbook), 1946

ASHCHEULOV, A.T. [deceased]; BEREZIN, N.P.

Measurement of the frequency-contrast characteristics of photographic lenses. Usp.nauch.fot. 10:15-22 '64. (MIRA 17:10)

ILLEGIBLE

BEREZIN, N.N.; MEYSGER, E.Kn.; POLUK[illegible] V.I., inzh., red.

[Rolled panels for walls of waterproofed gypsum slag concrete for sanitary engineering systems; practices of the "Tagilstroi" Trust of the Sverdlovsk Economic Council] Prokatnye paneli peregorodok iz vodostoikogo gipsoshlako-betona dlia sanitarno-tekhnicheskikh sistem; opyt tresta "Tagilstroi" Sverdlovskogo sovnarkhoza. Moskva, Gosstroiz-dat, 1962. 25 p. (MIRA 17:7)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.

POPKO, V.N., inzh.; BEN'YAMINOVICH, I.M., inzh.; BEREZIN, N.N., inzh.; GRIGOR'YEV, Yu.M., inzh.

Manufacture of large reinforced concrete elements made with a lime-slag binder. Bet. i zhel.-bet. 9 no.2:60-63 F '63. (MIRA 16:5)

(Precast concrete--Testing) (Binding materials)

ROZENFEL'D, L.M., kand.khim.nauk; BEN'YAMINOVICH, I.M., laureat Leninskoy premii; BEREZIN, N.N.; MEYMAN, A.G.; VASIL'YEVA, T.D.

Possibilities of using acid blast-furnace and open-hearth waste slags for the production of cellular concretes. Stroi. mat. 9 no.2:26-28 F '63. (MIRA 16:2)

1. Nauchno-issledovatel'skiy institut betona i zhelezobetona Akademii stroitel'stva i arkhitektury SSSR (for Rozenfel'd, Vasil'yeva). 2. Glavnyy inzh. Gosudarstvennogo tresta stroitel'nykh predpriyatiy g. Nizhniy Tagil (for Ben'yaminovich). 3. Nachal'nik tsentral'noy laboratorii Gosudarstvennogo tresta stroitel'nykh predpriyatiy g. Nizhniy Tagil (for Berezin).

(Slag) (Lightweight concrete)

CHUVATOV, V.V.; BEREZIN, N.N.; METSGER, E.Kh.; NAGIN, V.A.; KARTASHOV, N.A., kand. tekhn. nauk, dots.; MIL'KOV, N.V., kand. tekhn. nauk; BYCHKOV, M.I., kand. tekhn.nauk, dots.; SUKHANOV, V.P., SHLYAPIN, V.A.; KORZHENKO, L.I.; ABRAMYCHEV, Ye.P.; KAZANTSEV, I.I.; YARES'KO, V.F.; LUKOYANOV, Yu.N.; DUDAROV, V.K.; BALINSKIY, R.P.; KOROTKOVSKIY, A.E.; PONOMAREV, I.I.; NOVOSEL'SKIY, S.A., kand. tekhn.nauk, dots.; IL'INYKH, N.Z.; TSITKIN, N.A.; ROGOZHIN, G.I.; PRAVOTOROV, B.A.; ORLOV, V.D.; RACHINSKIY, M.N.; KULTYSHEV, V.N.; SMAGIN, G.N.; KUZNETSOV, V.D.; MACHERET, I.G.; SHEGAL, A.V.; GALASHOV, F.K.; ANTIPIN, A.A.; SHALAKHIN, K.S.; RASCHEKTAYEV, I.M.; TISHCHENKO, Ye.I.; FOTIYEV, A.F.; IPPOLITOV, M.F.; DOROSINSKIY, G.P.; ROZHKOV, Ye.P.; RYUMIN, N.T.; AYZENBERG, S.L.; GOLUBTSOV, N.I.; VUS-VONSOVICH, I.K., inzh., retsenzent; GOLOVKIN, A.M., inzh., retsenzent; GUSELETOV, A.I., inzh., retsenzent; KALUGIN, N.I., inzh., retsenzent; KRAMINSKIY, I.S., inzh., retsenzent; MAYLE, O.Ya., inzh., retsenzent; OZERSKIY, S.M., inzh., retsenzent; SKOBLO, Ya.A., dots., retsenzent; SPERANSKIY, B.A., kand. tekhn. nauk, retsenzent; SHALAMOV, K.Ye., inzh., retsenzent; VOYNICH, N.F., inzh., red.; GETLING, Yu., red.; CHERNIKHOV, Ya., tekhn. red.

[Construction handbook] Spravochnik stroitelia. Red.kollegiia: M.I. Bychkov i dr. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo. Vol.1. 1962. 532 p. Vol.2. 1963. 462 p. (MIRA 16:5)
(Construction industry)

POTEMKIN, S.V., glav. red.; MATSUYEV, L.P., zam. glav. red.; BEREZIN, V.P., red.; VESELOV, V.V., red.; GOLANDSKIY, D.B., red.; GOL'ITMAN, V.G., red.; IGNATENKO, M.A., red.; SHASHURA, M.V., red.; RIVKIN, G.M., red.; FIRSOV, L.V., red.; SHAKHNAROVICH, L.A., red.; SHEPELEV, I.T., red.; SHAROVA, L.A., red.

[Reports for 1961] Sbornik referatov za 1961 god. Magadan, 1962. 135 p. (Its: Trudy VNII-1) (MIRA 16:7)

1. Magadan. Vsesoyuznyy nauchno-issledovatel'skiy institut zolota i redkikh metallov.
(Frozen ground) (Mining engineering) (Metallurgy) (Building materials)

ROZENFEL'D, L.M., kand.khim.nauk; BEN'YAMINOVICH, I.M., inzh., BEREZIN, N.N., inzh.

Large autoclave-hardened aerated breeze and fly-ash concrete slabs made without using cement. Bet. i zhel.-bet. no.2:68-72 F '61. (MIRA 14:2)

(Concrete slabs) (Lightweight concrete)

BEREZIN, Nikolay Nikolayevich; METSGER, Edvin Khristianovich, st. inzh.; KOZULIN, B., red.; PAL'MINA, N., tekhn. red.

[Building materials from Nizhniy Tagil District] Stroitel'nye materialy Nizhne-Tagil'skogo raiona. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo, 1959. 148 p. (MIRA 16:6)

1. Nachal'nik TSentral'noy laboratorii stroitel'nykh materialov tresta "Tagilstroy" (for Berezin). 2. TSentral'naya laboratoriya stroitel'nykh materialov tresta "Tagilstroy" (for Metsger).
(Nizhniy Tagil District--Building materials)

BEREZIN, N.
"Use of chloride of lime in winter construction" (p.11) ARKHITEKTURA I STROITELSTVO (Ministerstvo na stroezhite i putishtata, Ministerstvo na komunalnoto stopanstvo i blagoustroistvoto, i Naushno tekhnicheskiia suiuz) Sofiya Vol 3 No 11 1953

SO: East European Accessions List Vol 2 No 7 Aug 1954

BEREZIN, N. N.; RIKERT, P. Ye.

Berezin, N. N.

Chlorination of mortar mixtures for construction work in winter.
Stroi. prom. 31, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

BEREZIN, N. N.

DAS CHLORIEREN DER BINDEMITTEL FUR WINTERBAUTEN. VON N. N. BEREZIN UND P. E. RIKERT. BERLIN, TECHNIK, 1953. 76 P. ILLUS., DIAGRS., TABLES (SCHRIFTENREIHE DES VERLAGES TECHNIK, BD. 179) TRANSLATION FROM RUSSIAN. "LITERATURNACHWEIS": P. 76

SO: N/5
748.2
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Winter-time stucco and masonry work with chlorinated solutions. N. N. Berezin. *Stroitel. Prom.* **27**, No. 11, 7–10 (1949).—Bricklaying and outdoor plastering of buildings was carried out successfully at a temp. of −24° with the use of an aq. ext. of $CaCl_2O$ (chlorinated lime). By lab. expts. (amt. of ice sepd. on cooling, and dilatometry), the antifreeze effect of this soln. appears only in the presence of a binder, and is due to the formation of particular structures on setting. Use of the chlorinated water accelerates the setting of cement-lime-sand mixts. and increases their compressive strength considerably. N. T.

MOLCHANOVA, O.P., prof.; LOBANOV, D.I., prof.; MARSHAK, M.S., prof.; GANETSKIY, I.D.; BEREZIN, N.I., laureat Stalinskoy premii; KONNIKOV, A.G., laureat Stalinskoy premii; LIFSHITS, M.O.; METLITSKIY, L.V., doktor sel'skokhoz.nauk; NAMESTNIKOV, A.F., kand.tekhn.nauk. Prinimali uchastiye: ANAN'YEV, A.A.; GROZNOV, S.R.; YEFIMOV, V.P.; KIKNADZE, N.S.; NIKASHIN, F.P.; PIROGOV, N.M.; SKRIPKIN, G.M.; TSYPLENKOV, N.P. SIVOLAP, I.K., red.; SKURIKHIN, M.A., red.; BETSOFEN, Ya.I., red.; DAMASKINA, G.B., red.; PRITYKINA, L.A., red.; KISINA, Ye.I., tekhn.red.

[Book on tasty and healthy food] Kniga o vkusnoi i zdorovoi pishche. Moskva, Pishchepromizdat, 1961. 423 p.
(MIRA 15:2)

1. Chlen-korrespondent AMN SSSR (for Molchanova).
(Cookery)

BEREZIN, Nikolai Il'ich

BEREZIN, Nikolai Il'ich. ... Pieshkom k karel'skim vodopadam. S 60 risunkami khudozhnika I.S. Kazakova i original'nymi fotofrafiiami avtora, s 5 kartochkami v tekstie. S.-Peterburg, 1903. 2 p. l., 193, (1) p., 1 l.

DLC: DK511.01B

So: LC, Soviet Geography, Part II, 1951/Unclassified

BEREZIN, N.; PISAREV, N.; POTEMKIN, V.; TSEREVITINOV, G.

"Fishery products" by V.I.Vzorov. Reviewed by N.Berezin and others.
Sov.torg. 35 no.4:37-38 Ap '62. (MIRA 15:4)
(Fishery products) (Vzorov, V.I.)

BEREZIN, N., kapitan

We expect more from each Communist. Komm.Vooruzh.Sil 1 no.6:70-73 Mr '61. (MIRA 14:8)

1. Zamestitel' sekretarya partbyuro. (Radio Military)

BEREZIN, Mikhail Timofeyevich; SALOPANOV, A.G., red.; OSADA, P.A., red. izd-va; KARASEV, A.I., tekhn.red.

[Organizing the preparation of ferrous scrap metal; aid to representatives of the Trust for the Procurement and Processing of Secondary Metals] Organizatsiia zagotovki loma chernykh metallov; v pomoshch' upolnomochennym Vtormeta i rabotnikam predpriiatii, zanimaiushchimsia sborom, pererabotkoi i otgruzkoi loma. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1960. 177 p. (MIRA 14:1)
(Scrap metals)

BEREZIN, M.Sh.; STANEVA, V.I. (L'vov)

Role of glucose and steroid hormones in the development of diabetes mellitus. Vrach. delo no.12:133-135 D '63.
(MIRA 17:2)

1. Oblastnoy protivozobno-endokrinologicheskiy dispanser.

BEREZIN, M.S., inzh.

The UDK-T universal feed grinder. Zhivotnovodstvo 23 no.3: 85-87 Mr '61.

BEREZIN, M.S., inzh.

Equipment for machine milking of cows. Makh. i elek. sots. sel'khoz. 21 no.1:23,38 '63. (MIRA 16:7)

(Milking machines)

BEREZIN, M.S., inzh.

In the scientific and technical council of the All-Union Agricultural Machinery Association. Mekh. i elek. sots. sel'skoz. 20 no.3:63-64 '62. (MIRA 15:7)
(Agricultural machinery)

BEREZIN, M.S.

Electric pumps. Mekh. i elek. sto s. sel'khoz. 19 no.2:54-55 '61.
(MIRA 14:3)

(Pumping machinery, Electric)

BEREZIN, M.S., inzh.

Technology of taking care of cattle by the use of tractors.
Zhivotnovodstvo 22 no.7:88-89 '60. (MIRA 16:5)
(Ukraine--Cattle) (Tractors)

BEREZIN, M.S.

Electromechanical haulage of manure on livestock farms. Biul.tekh.-ekon. inform. no.2:71-73 '59. (MIRA 12:3)
(Farm mechanization) (Farm manure)

BEREZIN, M.S.

The DPR-2 "Riga" continuous milking machine. Biul.tekh.-ekon.inform. no.9:54-56 '60. (MIRA 13:10)

(Milking machines)

BEREZIN, M.S.

A good textbook("Electric power plants and substations serving agricultural stations" by S.A. Burguchev. Reviewed by M.S. Berezin). Mekh.i elek.sots.sel'khoz. 16 no.5:62-63 '58.
(Electricity in agriculture) (Burguchev. S.A.) (MIRA 11:11)

BEREZIN, M.S.

The AKH - 1 mounted unit. Biul.tekh.-ekon.inform. no.11:60-61 '58. (MIRA 11:12)

(Agricultural machinery)

BEREZIN, M.S.

Electric lighting and signaling used in grain-harvesting units.
Biul.tekh.-ekon.inform. no.5:51-52 '58. (MIRA 11:7)
(Electricity in agriculture)

BEREZIN, M.M., TIKHOMIROV, S.M. (g. Vladimir); NIKOLAYEV, S.D.; GRITSYUK, I.P., KNYAZEV, P.V. (g. Shakhty Kamenskoy oblasti); BOCHAROV, V.S.; YERSHOV, V.V.; SHUMILOV, D.

Useful advice. Fiz. v shkole 17 no.3:62-64 My-Je '57.
(MLRA 10:6)

1. Gorodskoy institut usovershenstvovaniya uchiteley, g. Moskva (for Berezin). 2. Klyuchevskaya semiletnyaya shkola Sasovskogo rayona Ryazanskoy oblasti (for Nikolayev). 3. 27-ya shkola, g. Kherson (for Gritsyuk). 4. Dokshukinskaya srednyaya shkola Kabardinskoy ASSR (for Bocharov). 5. 48-ya shkola, g. Chelyabinsk (for Yershov). 6. Gorodskoy institut usovershenstvovaniya uchiteley, g. Chelyabinsk (for Shumilov).
(Physics--Experiments)

BEREZIN, M.M.

Experiments in electrostatic induction. Fiz.v shkole no.6:75 '53.
(MLRA 6:10)

1. Moscow, 101-ya shkola rabochey molodezhi. (Induction (Electricity))

BEREZIN, M.D.

Centennial of the Moscow gasworks. Gaz. prom. 10 no.6:17-19 '65.
(MIRA 18:6)

LIVCHAK, I.F., doktor tekhn. nauk; USENKO, I.F., inzh.; BEREZIN, M.D.; inzh.; YEVSEYEV, B.S., inzh.; IL'YUSHIN, L.M., inzh.

Using water heating systems with plinth convectors without casing. Vod. i san. tekh. no.3:18-21 '64 (MIRA 18:2)

AVAILABLE: Library of Congress (HF5679.R8)

JG/bg
8-5-59

ing, functions of interplant clearing houses, accounting of state taxes using business machines and computers, and operation of punch card machines. Technical features of computing and calculating are discussed and some measures to improve reliability are outlined. No personalities are mentioned. There are 8 Soviet references.

TABLE OF CONTENTS:

BEREZIN, M.
p. 2.

25(3) PHASE I BOOK EXPLOITATION SOV/1672

USSR. Upravleniye po organizatsii i mekhanizatsii ucheta

Mekhanizatsiya ucheta i vychislitel'nykh rabot na promyshlennom predpriyatii; sbornik statey (Mechanization of Accounting and Computing Operations in an Industrial Establishment; Collection of Articles) Moscow, Gosstatizdat, 1957. 125 p. 5,100 copies printed.

Additional Sponsoring Agency: USSR. TSentral'noye statisticheskoye upravleniye.

Ed.: V.A. Ustiyants; Tech. Ed.: A.A. Kapralova.

PURPOSE: This book is intended for technical personnel servicing computers, tabulators, punch card machines, etc., and for those using this equipment.

COVERAGE: This collection of articles reviews various aspects of mechanical invoicing, use of key-operated calculators in account-

Card 1/4

BEREZIN, M.; KAL'MANSON, G., ekonomist; TSERKOVNIKOV, A., ekonomist.

Some simplifications in the journal-voucher form of bookkeeping
Bukhg.uchet 15 no.10:38-47 O '56. (MLRA 9:11)

1. Rukovoditel' gruppy ratsionalizatsii i mekhanizatsii ucheta Ministerstva tsvetnoy metallurgii SSSR (for Berezin).
(Accounting)

BEREZIN, M.

A small washing machine. Tekh.mol.22 no.4:37 Ap '54. (MLRA 7:4)

1. Direktor Gosudarstvennogo instrumental'nogo zavoda.
(Washing machines)

ABANIN, A.; BEREZIN, M.

Calculating Machines

Once again the problem of computing wages by machine. Bukhg. uchet. 12, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

BEREZIN, L.D.; GOL'DGAMER, G.I.

Organizing and using the reference collection of the publication "Nauchno-tekhnicheskaia informatsiia." NTI no.5:12-17 '63. (MIRA 16:11)

BEREZIN, K.A.

A new method for solving problems related to the determination of instantaneous acceleration centers. Uch. zap. Kaz. un. 113 no.10:209-213 '53. (MLRA 10:6)

1. Kafedra mekhaniki.
(Disks, Rotating)

BEREZIN, K. A.

24215 BEREZIN, K. A. Osnovnyye tendentsii v razvitii abtomobil'nykh dvigateley. Sbornik dokladov studentov Mosk. avtomob.-dor. In-TA na 2-y Mezvuz. Konf-tsii studentov vyssh. ucheb. zavedeniy G. Moskvy. M., 1949, S. 43-51.

SO: Letopis, No. 32, 1949.

BEREZIN, I.Ya.; KUT'IN, K.K.; KUPERSHLYAK-YUZEFOVICH, G.M.

Device for measuring the displacement of working parts on forging machinery. Kuz.-shtam. proizv. 4 no.7:42-43 Jl '62. (MIRA 15:7)

(Forging machinery) (Automatic control)

BEREZIN, I.V.; UGAROVA, N.N.; PANESH, A.M.; KHROLOVA, O.R.

Radical mechanism of the reaction of hydrogen peroxide with carboxylic acids. Zhur. fiz. khim. 39 no.2:369-375 F '65.
(MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet.

UZHINOV, B.M.; KUZ'MIN, M.G.; MOROZOV, Yu.V.; BEREZIN, I.V.

Basicity of excited singlet and triplet states of some aromatic hydrocarbons. Vest. Mosk. un. Ser. 2: Khim. 19 no.6:62-64 S-O '64. (MIRA 17:11)

1. Kafedra khimicheskoy kinetiki Moskovskogo universiteta.

VOLOVCHENKO, I.; METELEV, V.; BANNIKOV, N.; LAPIDUS, M.; MOROZOV, P.; RUBTSOV, M.; BAT'SANOV, N.; PRYANISHNIKOV, D.N., akademik; TULAYKOV, N.M., akademik; BEREZIN, I.A., red.; AVDEYEVA, V.A., tekhn. red.

[Strong crops] Moguchie kul'tury. Moskva, Sovetskaia Rossiia, 1962. 222 p. (Truzhenikam sela - ob intensivnoi sisteme zemledeliia, no.2) (MIRA 16:9)

(Field crops)

AGNAYEV, Khadzhimet Il'yasovich; IVANOV, Konstantin Andreyevich, agronom ekonomist; BEREZIN, I.A., red.; YELAGIN, A.S., tekhn. red.

[Business accounting on the collective farm]Khoziaistvennyi raschet v kolkhoze. Moskva, Izd-vo "Sovetskaia Rossiia," 1962. 77 p. (MIRA 16:3)

1. Predsedatel' kolkhoza imeni V.I.Lenina Stavropol'skogo kraya (for Agnayev).

(Collective farms—Finance)

GLINKA, Marag Vital'yevich; BEREZIN, I.A., red.; MEDVEDEVA, R.A., tekhn. red.

[For high corn yields]Za bol'shuiu kukuruzu. Moskva, Sovetskaia Rossiia, 1962. 61 p. (MIRA 15:11)
(Corn (Maize))

PAVLOV, Mikhail Andreyevich; BEREZIN, I.A., red.; AVDEYEVA, V.A., tekhn. red.

[In the forefront]Na perednem krae. Moskva, Sovetskaia Rossiia, 1962. 70 p. (Resheniia XXII s"ezda KPSS - v zhizn' !)
(MIRA 15:8)

(Agricultural administration)

ACC NR: AP7012424

where

$$R = CH_3,\ (CH_3)_2CH \text{ and } (CH_3)_3C.$$

In addition, the reactivity of methyl alcohol in reaction with methyl radicals without solvent was studied.

The CH_3T - CH_4 mixture formed in the experiments was separated from the remaining reaction products by freezing with liquid nitrogen, and its specific radioactivity I_m (pulses·mm^{-1} min^{-1}) was measured in an internal-filling counter. The specific radioactivity of the original alcohols $I_{sp(alc)}$ was measured with the same counter. Orig. art. has: 2 figures, 5 formulas and 4 tables.

[JPRS: 40,422]

2/2

ACC NR: AP7012424

SOURCE CODE: UR/0189/66/000/003/0029/0034

AUTHOR: Koler, V.; Kazanskaya, N. F.; Berezin, I. V.

ORG: Department of Chemical Kinetics, Moscow State University (Kafedra khimicheskoy kinetiki moskovskogo gosudarstvennogo universiteta)

TITLE: Reactivity of hydrogen in the hydroxyl groups of CH_3OH, iso-C_3H_7OH and $(CH_3)_3COH$ in reaction with free methyl radicals in the liquid phase

SOURCE: Moscow, Universitet. Vestnik. Seriya II. Khimiya, no. 3, 1966, 29-34

TOPIC TAGS: hydroxylgroup, methyl alcohol, liquid nitrogen

SUB CODE: 07

ABSTRACT: The method of competing reactions was used to determine the rate constants of the following elementary reactions in the liquid phase:

$$ROT + CH_3^{\bullet} \xrightarrow{K_{OT}} CH_3T + RO^{\bullet}, \quad (1)$$

$$n\text{-}C_7H_{16} + CH_3^{\bullet} \xrightarrow{K_{CH_3}} CH_4 + C_7H_{15} \quad (2)$$

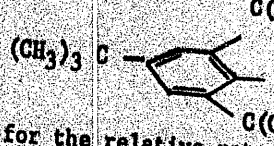
Card 1/2

UDC: 541.124/128

0932 1364

L 10509-66

ACC NR: AP5027179



Values were obtained for the relative rate constants of the reactions involving the detachment of hydroxyl hydrogen atoms (k^{OH}/k^{CH}) and tritium atoms (k^{OT}/k^{CH}) of 2,4,6-tri-tert-butylphenol by the methyl radical in n-heptane. It is shown that k^{OH}/k^{CH} and k^{OT}/k^{CH} are independent of the extent of decomposition of acetyl peroxide and of the concentration of the butylphenol. The temperature dependence of k^{OH}/k^{CH} shows a deviation from the Arrhenius law. The value of the hydrogen-tritium kinetic isotope effect k^{OH}/k^{OT} of the hydroxyl hydrogen atom of the butylphenol in the reaction with the methyl radical was determined. Orig. art. has: 2 figures, 4 tables, and 6 formulas.

SUB CODE: 07 / SUBM DATE: 09Feb65 / ORIG REF: 010 / OTH REF: 011

jw

Card 2/2

L 10509-66 EWT(m)/EWP(1) RPL RM

ACC NR: AP5027179 SOURCE CODE: UR/0076/65/039/010/2547/2552

AUTHOR: Shishkina, L. N.; Terezin, I. V. 44

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet) 44

TITLE: Relative reactivity and kinetic isotope effect of the hydroxyl hydrogen atom of 2,4,6-tri-tert-butylphenol in the reaction with free methyl radicals

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 10, 1965, 2547-2552

TOPIC TAGS: tritium, hydrogen, free radical, hydroxyl group, heptane, phenol, methane, chemical reaction

ABSTRACT: Using the method of competing reactions, the authors studied the relative reactivity of the hydroxyl hydrogen atom of 2,4,6-tri-tert-butylphenol in the reaction with methyl radicals in n-heptane. The standard reaction chosen was the well-known system

$$CH_3^{\cdot} + C_7H_{16} \xrightarrow{k_{CH}} CH_4 + C_7H_{15}^{\cdot},$$

$$CH_3^{\cdot} + C_7H_{15}T \rightarrow CH_3T + C_7H_{15}^{\cdot}.$$

In addition, the following reaction took place:

$$CH_3^{\cdot} + ROH \xrightarrow{k_{OH}} CH_4 + RO^{\cdot},$$

where R stands for

Card 1/2

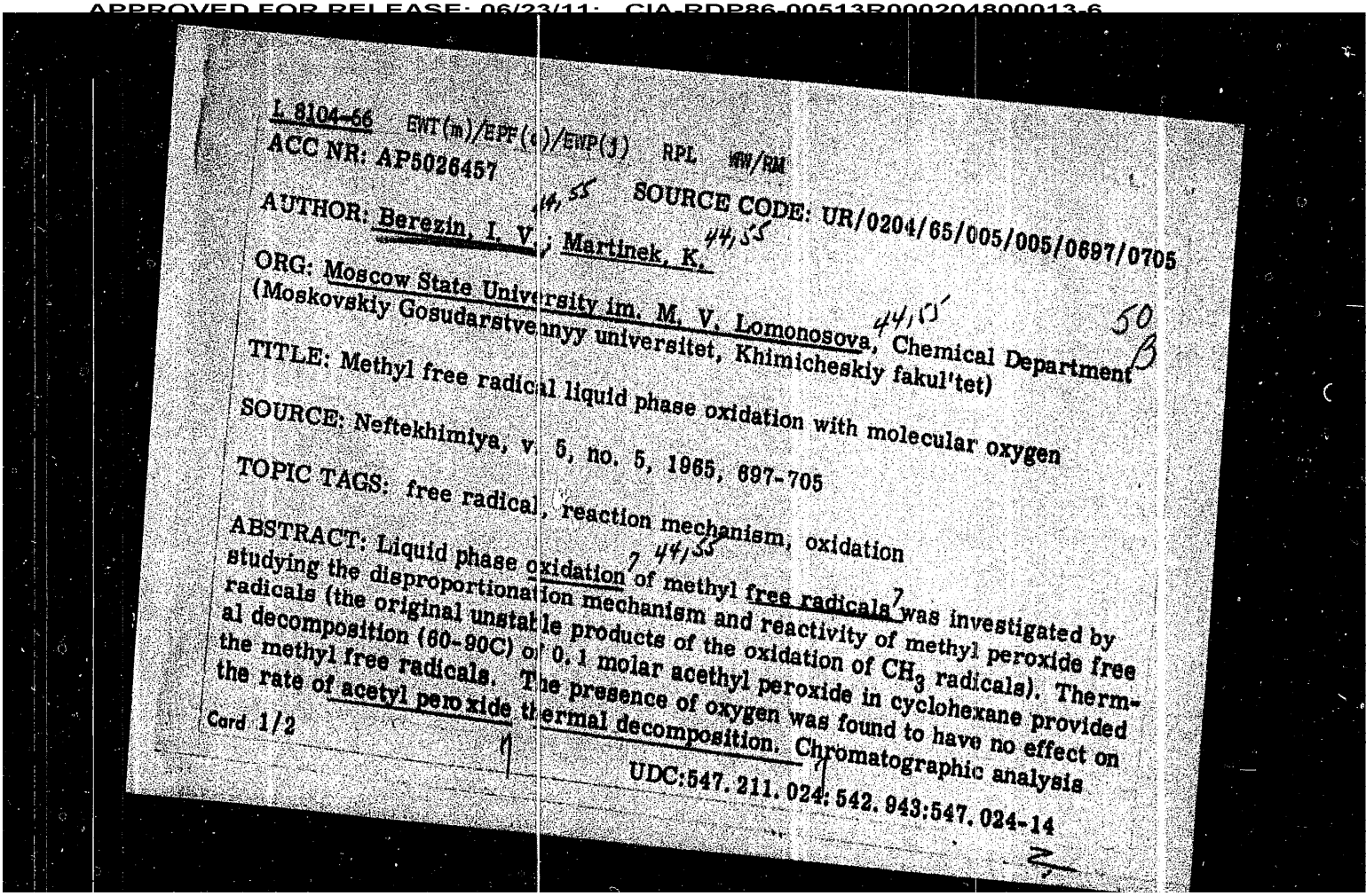
UDC: 541.124/.128

L 8104-66
ACC NR: AP5026457

and IR spectra indicated the oxidation products to be methanol, formaldehyde, cyclohexanol, cyclohexanone and methyl and cyclohexyl hydroperoxides. Methyl peroxide radicals reacted for the most part to form methanol, formaldehyde and oxygen. The disproportionation of the secondary peroxy radicals proceeds through the formation of an activated complex which is then decomposed to the alcohol and ketone. Cyclohexylperoxide radicals formed an active complex by reaction with the hydrogen atom of methyl peroxide radicals. The complex then broke down to form cyclohexanol and formaldehyde and smaller amounts of cyclohexanone and methanol. It was confirmed that the formation of methyl acetate by the decomposition of acetyl peroxide is also independent of the presence of oxygen and is effected by a cage reaction. Orig. art. has: 5 figures and 1 table and 15 equations.

SUB CODE:OC,TD/ SUBM DATE: 20Oct64/ ORIG REF: 013/ OTH REF: 026

Card 2/2



L 8104-66 EWT(m)/EPF(c)/EWP(j) RPL WW/RM

ACC NR: AP5026457 SOURCE CODE: UR/0204/65/005/005/0697/0705

AUTHOR: Berezin, I. V.; Martinek, K.

ORG: Moscow State University im. M. V. Lomonosova, Chemical Department (Moskovskiy Gosudarstvennyy universitet, Khimicheskiy fakul'tet)

TITLE: Methyl free radical liquid phase oxidation with molecular oxygen

SOURCE: Neftekhimiya, v. 5, no. 5, 1965, 697-705

TOPIC TAGS: free radical, reaction mechanism, oxidation

ABSTRACT: Liquid phase oxidation of methyl free radicals was investigated by studying the disproportionation mechanism and reactivity of methyl peroxide free radicals (the original unstable products of the oxidation of CH_3 radicals). Thermal decomposition (60-90C) of 0.1 molar acethyl peroxide in cyclohexane provided the methyl free radicals. The presence of oxygen was found to have no effect on the rate of acetyl peroxide thermal decomposition. Chromatographic analysis

Card 1/2

UDC:547.211.024:542.943:547.024-14

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BEREZIN, I.V.; MARTINEK, Karel

Reactivity of cyclohexyl and heptyl free radicals in the reaction with C sec. - T bond of some hydrocarbons in the liquid phase (effect of conjugation). Zhur. fiz. khim. 38 no.4:998-1000 Ap '64. (MIRA 17:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

ACCESSION NR: AP4011444

molecule (equal to the ratio of specific radioactivity of methane formed in the reaction to the specific radioactivity of the initial hydrocarbon), as well as the temperature dependence of this ratio, were measured. By determining the C-T reactivity and making some assumptions, the C-H reactivity could be evaluated. In the course of this work, 2,2,4-trimethylpentane-4-T and -3-T were synthesized, and their infrared spectra were recorded with a UR-10 spectrometer. The spectra of combined diffusion were also recorded with DFS-12 spectrometer. It was concluded that 2,2,4-trimethylpentane both in the liquid and crystalline states exists in a single conformation state. Orig. art. has 3 Figures, 1 Table.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 25Mar63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: CH NR REF SOV: 009 OTHER: 005

Card 2/2

ACCESSION NR: AP4011444 S/0076/64/038/001/0125/0129

AUTHORS: Berezin, I. V. (Moscow); Kazanskaya, N. F. (Moscow); Pentin, Yu. A. (Moscow)

TITLE: Spatial structure and reactivity of the C-H bonds in 2,2,4-trimethylpentane

SOURCE: Zhurnal fiz.khim, v. 38, no. 1, 1964, 125-129

TOPIC TAGS: trimethylpentane, C-H bonds, spatial structure, C-T bonds

ABSTRACT: Using tritium tagging, the relative activity of different C-T bonds in a 2,2,3-trimethylpentane molecule was investigated. The results of this study indicate that the molecules of this compound at 60-90C are in the form of a conformation isomer where the C-H bond of the tertiary carbon atom is strongly screened. During the study, the rate constant of the methyl radical interaction with the C-T bond of the 2,2,4-trimethylpentane tagged in certain position, and the ratio of this rate to the rate constant of its interaction with the whole

Card 1/2

BYKOVCHENKO, V.G.; BEREZIN, I.V.

Kinetics and mechanism of the liquid-phase oxidation of cyclododecane by molecular oxygen. Part 4: Mechanism of the oxidation of cyclododecane studied by the method of inhibition. Neftekhimiia 3 no.4:565-571 Jl-Ag '63. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet.

BEREZIN, I.V.; BYKOVCHENKO, V.G.; KORNEVA, V.V.; ZAKHARKIN, L.I.

Investigation of the kinetics and mechanism of liquid-phase oxidation of cyclododecane by molecular oxygen. Report No. 2. Kinetics of the accumulation of intermediate products. Neftekhimiia 1 no.4:541-547 Jl-Ag '61. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet, khimicheskiy fakul'tet i Institut elemento-organicheskikh soyedineniy AN SSSR.

BEREZIN, I.V.; BYKOVCHENKO, V.G.; MELUZOVA, G.B.

Investigation of the kinetics and mechanism of liquid-phase oxidation of cyclododecane by molecular oxygen. Report No. 1. Quantitative analysis of the mixture of oxidation products for cyclododecanol and cyclododecanone by infrared absorption spectra. Neftekhimiia 1 no.4:535-540 Jl-Ag '61. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet, khimicheskiy fakul'tet.

BEREZIN, I.V.

Additivity of free activation energies in gaseous free radical reactions. Dokl. AN SSSR 148 no.3:609-612 Ja '63.

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. Predstavleno akademikom N.N. Semenovym. (MIRA 16:2)
(Radicals (Chemistry)) (Activity coefficients)

possibly to the reaction of the "hot" methyl radicals with the solvent. The decrease in the tritium content in ethane in the course of photolysis in the solid phase is explained by the dilution of the exchanging ethane with light ethane, formed by recombination of the methyl radicals. In aromatic hydrocarbons (benzene, toluene) no exchange takes place between their hydrogen atoms and the excited acetyl peroxide molecules. Their presence does not affect the exchange reaction with aliphatic hydrocarbons, which proves that the aromatic compounds do not inactivate the excited peroxide molecules. The addition of radical acceptors (iodine, anthracene) proves to be ineffective. In the photolysis of azomethane in heptane under the conditions mentioned a decomposition into nitrogen, methane and non-tagged ethane takes place at a wavelength of 365 mμ. At 254 mμ exactly the same exchange reaction takes place as with acetyl peroxide. There is 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: July 27, 1962, by N. N. Semenov, Academician

SUBMITTED: July 17, 1962

A new type of hydrogen exchange... S/020/63/148/002/034/037
B124/B186

Methane arises by the removal of hydrogen atoms (in deuterium- or tritium-tagged solvents by the removal of one deuterium or tritium atom) from the solvent by methyl radicals. Small amounts of ethane are formed by cellular recombination. In the photolysis of acetyl peroxide in tritium-tagged saturated acyclic (n-heptane) and alicyclic (cyclohexane) hydrocarbons, ethane with a high tritium content is formed; the tritium content in methane is higher than in the case of thermal decomposition under the same conditions. In the photolysis of acetyl peroxide in deutero-cyclohexane only C_2H_6 and C_2H_6D arise; the tritium content in ethane and methane is practically independent of temperature. The exchange takes place also in the photolysis in solid phase (at 77°K). Evidently the solvent participates in the formation of ethane from the electron-excited peroxide molecule in the photolysis of acetyl peroxide in saturated hydrocarbons. This photolysis causes the substitution of one hydrogen atom in the initial peroxide by one hydrogen atom of the solvent and is characterized by a very slight isotopic effect. This process is molecular, which is proved by the substitution of only one hydrogen atom in ethane and by the relatively low tritium content in methane. The increase in the tritium content of methane in the photolysis is probably related to the decomposition of a small portion of the exchanging acetyl peroxide molecules to methyl radicals, or

Card 2/3

45158

S/020/63/148/002/034/037
B124/B186

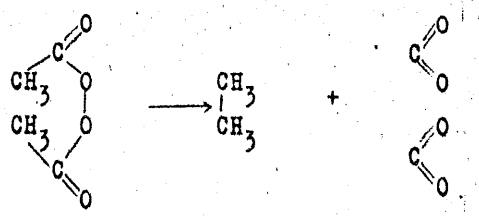
5.4500

AUTHORS: Kuz'min, M. G., Berezin, I. V.

TITLE: A new type of hydrogen exchange in the photolysis of some organic compounds

PERIODICAL: Akademiya nauk SSSR, Doklady, v. 148, no. 2, 1963, 377-379

TEXT: The photochemical decomposition of acetyl-peroxide, dissolved in hydrocarbons, was studied by hydrogen isotope tagging. It was found that an ordinary six-centered rearrangement of the light-absorbing electron-excited acetyl peroxide molecule



causes the formation of methane and CO_2 as well as up to 25% of ethane.

Card 1/3

BEREZIN, I.V.; SMOLYAK, S.A.

Effect of diffusion on the distribution of a zero reaction product along a continuously operating cyclindrical reactor. Kin. i kat. 4 no.3:467-474 My-Je '63. (MIRA 16:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Diffusion) (Chemical reactors)

L 15479-63

ACCESSION NR: AP3005153

reactor at a speed of 8 liters per hour. The load of cyclododecane was 18g. Concentration of Alpha-naphthol was determined spectrophotometrically. It was found that the rate of free radical formation increases as the reaction proceeds towards its completion. The length of chain and the average activity of the free radicals increase at the beginning of the reaction, attaining a maximum and then decreasing. The main branching agent in the beginning stages of cyclododecane oxidation is cyclododecyl hydroperoxide. It was found that 1/10 to 1/16 of the total amount of cyclododecyl hydroperoxide takes part in the branching reaction. Cyclododecanon is formed and is consumed according to the chain mechanism. Cyclododecanol is consumed according to the chain mechanism; however, its formation is of the non-chain type. Orig. art. has: 1 table, 5 figures, and 5 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova, Khimicheskiy fakul'tet (Moscow State University, Chemical Faculty)

SUBMITTED: 20Sep62 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: CH NO REF SOV: 016 OTHER: 000

Card 2/2

L 15479-63 EP(c)/EWT(m)/BDS Pr-4 RM/WW

ACCESSION NR: AP3005453 S/0204/63/003/004/0565/0571

AUTHOR: Pyshkovchenko, V. G.; Berezin, I. V. 59 58

TITLE: Analysis of the kinetics of liquid phase oxidation mechanism of cyclododecane with molecular oxygen. 4. Study of the oxidation mechanism of cyclododecane by the inhibitor method

SOURCE: Neftekhimiya, v. 3, no. 4, 1963, 565-571

TOPIC TAGS: cyclododecane oxidation, oxidation inhibitor method, O, free radical, cyclododecane, oxygen, molecular oxygen, spectrophotometry, alpha-naphthol, cyclododecyl hydroperoxide

ABSTRACT: Authors employed the inhibitor method to explain the type of mechanism, either chain or non-chain, which takes place during the oxidation of cyclododecane and through which hydroperoxides of cyclododecyl, cyclododecanon and cyclododecanol are formed and consumed. Alpha-naphthol was used as the inhibitor for the study of liquid-phase oxidation mechanism. The oxidation of cyclododecane was performed at 150C with oxygen, which was introduced into the

Card 1/2

L 13345-63

ACCESSION NR: AP3002777

decomposition constant on temperature were determined. Other factors were considered in the study of the effect of cyclododecyl hydroperoxide decomposition such as decomposition effect in the presence of alpha-naphthol and the determination of the rate of decomposition of cyclododecyl hydroperoxide by the rate of accumulation of the oxidized byproducts. It was established that, in the process of oxidation of cyclododecyl hydroperoxide, the oxidation proceeds by a chain reaction and the decomposition proceeds in a non-chain manner. The decomposition rate constant of the cyclododecyl hydroperoxide increases with the increase of oxidation. Orig. art. has: 1 table and 3 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

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