SKOROKHODOV, A.N.; TARNOVSKIY, I.Ya.; BOYKO, B.M.

Investigating contact stresses during the rolling of complex shapes. Izv.vys.ucheb.zav.; chern. met. 8 no.4:112-116 '65.
(MIRA 18:4)

1. Ural'skiy politekhnicheskiy institut.

SKOROKHODOV, B.P.

Rotary (vane) vents. Vod. i san. tekh. no.3:37 Mr '57. (MLRA 10:6)
(United States--Water pipes)

SKOROKHODOV, B.

Some problems of depreciation and general overhaul of communal enterprises. Zhil.-kom.khoz. 6 no.8:7-8 '56. (MLRA 10:2)

(Civil engineering--Estimates and costs)

SKOROKHODOV, B.

Magnetic water meter. Zhil.-kom.khoz. 7 no.4:29 '57. (MIRA 10:7)
(United States--Water meters)

SKOROKHODOV, B.P.

Norms of amortization of public baths. Gor.khoz.Mosk. 31 no.6:28-30 Je '57. (MIRA 10:7)
(Amortization) (Moscow--Baths, Public)

SKOROKHODOV, B.P.

Living conditions of the workers. Gor.khoz.Mosk. 36 no.1:48-50 Ja '62. (MIRA 16:1)

(New York (City)--Housing)

LIKHOLAY, Vladimir Georgiyevich; SKOROKHODOV, Grigoriy Fedorovich;
DEVOCHKIN, N., red.

[Toward the goals of abundance] K rubezham izobiliia. Volgograd, Volgogradskoe knizhnoe izd-vo, 1963. 38 p.
(MIRA 18:3)

MORDVINTSEVA, A.V., kand.tekhn.nauk; OL'SHANSKIY, N.A., kand.tekhn.nauk;
Prinimal uchastiye: SKOROKHODOV, L.N., inzh.

Welding plastics. Izv. vys. ucheb. zav.; mashinostr. no. 3:96-108 '61. (MIRA 14:5)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana.
(Plastics--Welding)

NEKRASOV, L.I.; SKOROKHODOV, I.I.

The question of existence of higher hydrogen perosides; critical review of literature. Part 1. Vest.Mosk.un. Ser.mat.,mekh., astron.,fiz.,khim.11 no.1:213-219 '56. (MIRA 10:12)

1. Kafedra fizicheskoy khimii Moskovskogo universiteta.
(Hydrogen peroxide)

NEKRASOV, L.I.; SKOROKHODOV, I.I.

Existence of a higher peroxide hydrogen. Zhur.fiz.khim.30 no.5:1189-1190 My '56. (MLRA 9:9)

1.Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Hydrogen peroxide)

SKOROKHODOV, I. I., and NEKRASOV, L, I.

"Concerning the Problem in Regard to the Existence of a Higher Peroxide of Hydrogen -- Part 1," by L. I. Nekrasov and I. I. Skorokhodov, Chair of Physical Chemistry, Moscow State University, Vestnik Moskovskogo Universiteta, Vol 11, No 1, Jan/Feb 57, pp 213-219

After reviewing USSR and foreign work on the synthesis of H_2O_4 and results obtained in the investigation of products obtained in attempts to synthesize higher peroxides of hydrogen, the authors subject to critical discussion data on the physical and chemical properties of the glass-like product obtained in the low-temperature condensation of dissociated water vapor or dissociated H_2O_2, as well as in the interaction of atomic hydrogen with oxygen. They arrive at the following conclusions:

1. When water vapor or hydrogen peroxide vapor has been dissociated by means of an electric discharge and the product of the dissociation has been condensed on a cold surface (at a temperature of approximately minus 180°), the radical HO_2 is formed, which may either be stabilized by freezing or undergo association, forming the hydrogen superoxide H_2O_4. In addition to that, H_2O_2 and H_2O are formed on the cold surface. The glass-like product consists of H_2O , H_2O_2, and H_2O.

2. When the temperature is raised, the glass-like product undergoes a number of transformations. After being originally in an amorphous state, it crystallizes at minus 115° and begins to decompose. At the temperature of minus 61°, when the rate of decomposition reaches a maximum, the product melts, becomes poorer in hydrogen superoxide because of the continuous decomposition of this substance, and is transformed into a solution of hydrogen peroxide in water.

3. The decomposition of the glass-like product, which begins at minus 115°, is due to the reaction

$$H_2O_4 \longrightarrow H_2O_2 + O_2$$

4. To confirm these conclusions and establish beyond doubt the existence of the radical HO_2 and of H_2O_4, more thorough investigations will be necessary.

Sum 1258

SKOROKHODOV, I.I.

KOBOZEV, N.I.; SKOROKHODOV, I.I.; NEKRASOV, L.I.; MAKAROVA, Ye.I.

Physical chemistry of concentrated ozone. Part 2: A study of the synthesis of the highest peroxide of hydrogen H_2O_4 by the reaction between concentrated ozone with atomic hydrogen [with summary in English]. Zhur.fiz.khim.31 no.8:1843-1850 Ag '57. (MIRA 10:12)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Peroxides) (Hydrogen) (Ozone)

SKOROKHODOV, I. I.

76-1-13/32

AUTHORS: Reznitskiy, L. A., Khomyakov, K. G., Nekrasov, L. I., SKorokhodov, I. I.

TITLE: Concerning the Higher Peroxide of Hydrogen and Frozen Radicals I. Determination of the Decomposition Temperature of the Glassy Substances Produced in the Electric Discharge From Water Vapour (K voprosu o vysshey perekisi vodoroda i zamorozhennykh radikalov. I. Opredeleniye teploty razlozheniya steklovidnogo veshchestva, poluchennogo iz parov vody v elektricheskom razryade).

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 1, pp. 87-92 (USSR)

ABSTRACT: The results of the calorimetric determination of heat effects are given, which accompany the decomposition of the glassy substance (obtained from dissociated steam with an electric discharge). The method of continuous heating on adiabatic conditions was used. This method makes possible the determination of heat effects in a relatively quick and realiable manner. A construction of the calorimetric investigation of the interaction at low temperature of vapour dissociated in an electric discharge was worked out. Three heat effects were determined which accompany the heating

Card 1/4

76-1-13/32

Concerning the Higher Perodixe of Hydrogen and Frozen Radicals
I. Determination of the Decomposition Temperature of the Glassy Substances Produced in the Electric Discharge From Water Vapour

process of the glassy substance. The authors show that at -115°C the first exothermic effect begins and that it is accompanied by a separation of O_2.At - 70°C the glassy substance begins to melt. This goes on till -55°C. At this temperature the endothermic process passes over to an exothermic one. This is accompanied by a turbulent separation. of O_2. It reaches its maximum in a liquid phase at -43°C. This exothermic effect takes place in the melting range of the eutectic of the H_2O-H_2O_2 system. In order to take this effect into account the heat of fusion of the eutectic was determined. It was 74,5 cal/g. When determining the real value of the second exothermic effect this quantity was taken into account. The authors stated that with the first effect, which began at -115°C and which was accompanied by a separation of gas a heat of 78,8 kcal/Mol O_2 was separated. The endothermic effect which is connected with the melting of the substance and which begins at -70° is also accompanied by a separation of

Card 2/4

76-1-13/32

Concerning the Higher Perodixe of Hydrogen and Frozen Radicals I. Determination of the Decomposition Temperature of the Classy Substances Produced in the Electric Discharge From Water Vapour

gas. With this effect 100 cal/g H_2O_2 were recorded. The quantity of the second exothermic effect was 68,0 kcal/Mol of O_2. It is accompanied by a decomposition of H_2O_4. The data given here prove the process of the decomposition of glassy substances suggested earlier by one of the authors (Nekrasov) (ref. 6). The endothermic effect stated with this decomposition has not yet been clearly explained. According to the opinion of the authors this effect had to be attributed to a change of the state of aggregation with glassy substances, which would coincide with the explications in ref. 11.
The authors were advised by Professor N. I. Kobozev.
There are 2 figures, 2 tables, and 12 references, 2 of which are Slavic.

Card 3/4

76-1-13/32

Concerning the Higher Perodixe of Hydrogen and Frozen Radicals
I. Determination of the Decomposition Temperature of the
Classy Substances Produced in the Electric Discharge From
Water Vapour

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

SUBMITTED: October 3, 1956

AVAILABLE: Library of Congress

Card 4/4

SKOROKHODOV, I. I.: Master Chem Sci (diss) -- "Investigation of methods of preparation and the physicochemical properties of rozen peroxide radicals systems (HO_2-H_2O_4-H_2O_2-H_2O)". Moscow, 1959. 12 pp (Moscow State U im M. V. Lomonosov), 110 copies (KL, No 12, 1959, 126)

11.1120
11.1310
11.1190

33691
S/076/62/036/002/002/009
B119/B101

AUTHORS: Skorokhodov, I. I., Nekrasov, L. I., Kobozev, N. I., and Yevdokimov, V. B. (Moscow)

TITLE: Problem of higher peroxides of hydrogen and frozen radicals. VI. Investigation of the magnetic properties of peroxide radical condensates

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 2, 1962, 274 - 281

TEXT: The authors studied the magnetic properties of peroxide radical condensates synthesized both from dissociated water vapors and from the reaction of atomic hydrogen with liquid 100% ozone by methods already described (Zh. fiz. khimii, 31, 1843, 1957; ibid., 32, 87, 1958). The magnetic susceptibility was determined by the method of comparison with water as gauge substance (measurement of weight increase in the magnetic field) between -150 and +20°C. Below -110°C, peroxide radical condensates are weakly diamagnetic; their susceptibility is $-0.1 - -0.2 \cdot 10^{-6}$ cgsm. The paramagnetism of the system increases with the temperature owing to free oxygen (neither adsorbed nor occluded) forming from

Card 1/2

MAL'TSEV, Yu.A.; SKOROKHODOV, I.I.; NEKRASOV, L.I.

Hydrogen superoxide and frozen radicals. Part 7. Zhur. fiz. khim. 37 no.12:2740-2745 D '63. (MIRA 17:1)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

S/0000/63/000/000/0041/0045

ACCESSION NR: AT4028330

AUTHOR: Kobozev, N. I.; Nekrasov, L. I.; Skorokhodov, I. I.

TITLE: Mechanism of low temperature formation of hydrogen peroxide

SOURCE: Soveshchaniye po khimii perekisny*kh soyedineniy. Second, Moscow, 1961. Khimiya perekisny*kh soyedineniy (chemistry of peroxide compounds); Doklady* soveshchaniy. Moscow, Izd-vo AN SSSR, 1963, 41-45

TOPIC TAGS: hydrogen peroxide, low temperature formation, nascent hydrogen, ozone, oxygen, hydrogen, hydroxyl radical, water

ABSTRACT: This paper proposes a scheme for low temperature reactions of atomic hydrogen with oxygen. The authors explain the research of interaction of nascent hydrogen with oxygen at low temperatures with the formation of hydrogen peroxide and water as a final product. The paper claims that, in addition to water and hydrogen peroxide, the primary products also contain free frozen HO_2 radicals and H_2O_4 compound, the higher peroxide of hydrogen. The concentration of HO_2 radicals in condensates is small and in the best cases attains only 0.4 wt-%. The HO_2 and H_2O_4 radicals can be maintained only at temperatures of less than -120°C. At higher temperatures the latter break down into hydrogen peroxide and oxygen. If hydrogen

ACCESSION NR: AT4028330

peroxide is formed in the heterogeneous mechanism through the HO_2 radical, then the formation of water occurs basically in the gaseous phase or through OH radicals or oxygen atoms. The proposed scheme reflects the basic outlines of the process of hydrogen peroxide formation at low temperatures.

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

SUBMITTED: 13Dec63

DATE ACQ: 06Apr64

ENCL: 00

SUB CODE: CH

NO REF SOV: 009

OTHER: 017

Card 2/2

5(4) SOV/76-33-9-32/37

AUTHORS: Skorokhodov, I. I., Nekrasov, L. I., Reznitskiy, L. A., Khomyakov, K. G., Kobozev, N. I.

TITLE: On the Problem of the Higher Hydrogen Peroxide and Frozen Radicals . II. Some Notes on the Thermochemistry of the Higher Peroxide H_2O_4 and the Radical HO_2

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 9, pp 2090-2095 (USSR)

ABSTRACT: In a previous paper (Ref 1), calorimetric investigations were described which dealt with the decomposition of the solid condensate (C) obtained by freezing out (at -196°) the steam dissociated in an electric discharge (as a so-called vitreous substance). The two-stage decomposition took place with two exothermic reactions: $HO_2+HO_2 \rightarrow H_2O_2$ (solid)$+O_2$ (1) and H_2O_4(liquid) $\rightarrow H_2O_2$ (liquid)$+O_2$ (2). Detailed checking of the decomposition of (C) (obtained as mentioned above, as well as by a reaction of atomic hydrogen with liquid ozone) indicated that the resultant data need some correction. Visual observations and data obtained by the thermographic method (which

Card 1/4

On the Problem of the Higher Hydrogen Peroxide and Frozen SOV/76-33-9-32/37
Radicals. II. Some Notes on the Thermochemistry of the Higher Peroxide
H_2O_4 and the Radical HO_2

will be presented in a separate article) showed that on the decomposition of (C) the solid phase vanishes at -70 to -60°, the melting being an endothermic process. Livingstone, Ghormley, Zeldes (Ref 8), and A. I. Gorbanev, S. D. Kaytmazov, A. M.Prokhorov, and A. B. Tsentsiper (Ref 9) found that the concentration of the free HO_2-radicals frozen in the (C) amounts to 0.3 per cent by weight only. Hence, it results from (1) that the portion of hydrogen represents only 4% of the total amount of the formed hydrogen, and the first exothermic effect is to be ascribed to the thermal effects of reactions (1) and (2) as well as to the crystallization heat of the amorphous portion of the condensate. The authors analyzed experimental data on the first thermal effect (Table); the crystallization heat of the amorphous (C)-portion amounted to $\Delta H = -2.6$ kcal/mol H_2O_2, which is near the melting point of H_2O_2. It is therefore assumed that the devitrification of (C) is directly connected with the presence of H_2O_2 in the condensate.

Card 2/4

On the Problem of the higher Hydrogen Peroxide and Frozen SOV/76-33-9-32/37
Radicals. II. Some Notes on the Thermochemistry of the Higher Peroxide H_2O_4
and the Radical HO_2

The value $\Delta H = -39$ kcal/mol was obtained for the thermal effect of H_2O_4-decomposition in the liquid phase of O_2 and H_2O_2. Herefrom the authors calculated the formation heat for H_2O_4 (from the components) and the re-formation heat of the HO_2-radicals into H_2O_4. The respective values are $\Delta H = -6$kcal/mol and $\Delta H = -15$ kcal/mol H_2O_4. They are in good agreement with other thermochemical data. The structure H-O-O-O-O-H suggested by A. N. Bakh (Ref 15) is the most suitable for the data obtained. Calculation of the bond energy shows that the energy of the mean O-O bond is found within the range 11-43 kcal if the other bonds are contained in the H_2O_2 molecules according to the corresponding bonds. There are 1 table and 17 references, 8 of which are Soviet.

Card 3/4

On the Problem of the Higher Hydrogen Peroxide and Frozen SOV/76-33-9-32/37
Radicals. II. Some Notes on the Thermochemistry of the Higher Peroxide H_2O_4
and the Radical HO_2

ASSOCIATION: Gosudarstvennyy universitet im. M. V. Lomonosova, Moskva (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: March 28, 1958

Card 4/4

S/189/60/000/004/006/006
B002/B060

AUTHOR: Skorokhodov, I. I.

TITLE: Lomonosov Lectures at the Department of Chemistry

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 2, khimiya, 1960, No. 4, pp. 77 - 78

TEXT: The scientific conference "Lomonosovskiye chteniya" (Lomonosov Lectures) was held at the Department of Chemistry from April 14 to 15, 1960. The conference, convened on the occasion of the 90th birth anniversary of V. I. Lenin, the founder of the Soviet Union and of the Kommunisticheskaya partiya Sovetskogo Soyuza (Communist Party of the Soviet Union), was opened with a lecture by Professor M. I. Shakhparonov: "V. I. Lenin and Natural Science". A. A. Balandin spoke on the subject: "Ways of Development of Catalytic Chemistry" and gave detailed results obtained from the stepwise decomposition of hydrocarbons by water vapor over nickel catalysts in a research conducted jointly with T. A. Slovookhotova. The lecture by M. A. Prokof'yev and Z. A. Shabarova dealt with: "Binding Forms of Nucleic Acids With Amino Acids and

Card 1/2

Lomonosov Lectures at the Department of Chemistry

S/189/60/000/004/006/006
B002/B060

Proteins". V. I. Spitsyn reported on "Research Into Inorganic Polyacids" made jointly with I. D. Kolli, Ye. A. Torchenkova, G. N. Pirogova, V. Ya. Kabanov, and others. V. A. Kargin, P. V. Kozlov, and N. F. Bakayev reported on "Microscopic Structures of Polymers". Academician A. N. Nesmeyanov lectured on "Ferrocene, a New Aromatic System". V. M. Tatevskiy dealt with "The Theory of Connection Between Properties and Structure of Molecules".

Card 2/2

S/076/61/035/003/022/023
B121/206

11.2140

AUTHORS: Nekrasov, L. I., Skorokhodov, I. I., and Kobozev, N. I.

TITLE: The nature of the peroxide-radical condensates (Answer to P. A. Giguere and D. Chin)

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 3, 1961, 691-693

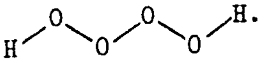
TEXT: P. A. Giguere and D. Chin (Ref. 1: J. Chem. Phys., 31, 1685, 1959) doubt that a higher hydrogen peroxide H_2O_4 is formed during peroxide-radical condensation. This assumption is, however, confirmed by various physicochemical and analytical methods (thermographic, calorimetric, and magnetic investigations). Especially by magnetic investigations it is shown that the peroxide-radical condensate is slightly diamagnetic at temperatures below -110°C, and that at temperatures above -110°C the total magnetic susceptibility increases along with a simultaneous increase of the paramagnetic properties. The increase of the total magnetic susceptibility shows that the liberated oxygen is to be regarded as a decomposition product of the unstable chemical composition H_2O_4. The process in question is therefore not a simple

Card 1/3

S/076/61/035/003/022/023
B121/B206

The nature of ...

desorption of occluded oxygen. The following chain structure has been assigned to the compound H_2O_4:



The failure of P. A. Giguere to obtain H_2O_4 is explained by the application of solid ozone instead of liquid one. The decomposition of the compound H_2O_4 at a temperature increase proceeds according to the reaction $H_2O_4 \rightarrow H_2O_2 + O_2$. The mechanism of the reaction of the H atoms with the liquid ozone film is discussed. The radical HO_2 formed on the surface of the liquid ozone according to the reaction O_3 (liquid) + $H \rightarrow HO_2 + O$ (1) diffuses into the ozone film where the reaction $HO_2 + HO_2 \rightarrow H_2O_4$ (4) takes place. There are 14 references: 8 Soviet-bloc and 6 non-Soviet-bloc. The four most recent references to English-language publications read as follows: P. A. Giguere, D. Chin, J. Chem. Phys., 31, 1685, 1959; R. A. Jones, C. A.

Card 2/3

S/076/61/035/003/022/023
B121/B206

The nature of ...

Winkler, Canad. J. Chem., 29, 1010, 1951; J. S. Batzold, C. Luner, C. A. Winkler, Canad. J. Chem., 31, 262, 1953; J. D. Mc Kinley, D. Garvin, J. Amer. Chem. Soc., 77, 5802, 1955.

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

SUBMITTED: September 15, 1960

X

Card 3/3

22005
S/076/61/035/004/013/018
B106/B201

11.1310 also 2114

AUTHORS: Skorokhodov, I. I., Nekrasov, L. I., Kobozev, N. I.,
and Makarova, Ye. I.

TITLE: Problem of a higher hydrogen peroxide and frozen radicals

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 4, 1961, 905 - 910

TEXT: III. Kinetics of the decomposition of peroxide radical condensate formed from dissociated water vapors

By peroxide radical condensates the authors designate the products formed by freezing out water- and hydrogen peroxide vapors after dissociation in an electric discharge, and also by the reaction of atomic hydrogen with oxygen or liquid ozone at very low temperatures. Data available in the literature concerning the kinetics of decomposition of these peroxide radical condensates with temperature rise contradict one another as to important items (Ref. 6: E. Ohara, J. Chem. Soc. Japan, 61, 569, 1940; Ref. 7: L. I. Nekrasov, Dis. MGU, 1951; Ref. 8: R. A. Jones, C. A. Winkler, Canad. J. Chem., 29, 1010, 1951). For this reason, the authors

Card 1/5

22005

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B106/B201

Problem of a higher hydrogen ...

studied the decomposition kinetics of such condensates, which were prepared in an apparatus described earlier (Ref. 5: Zh. fiz. khimii, 31, 1843, 1957; Ref. 11: Zh. fiz. khimii, 32, 87, 1958). The water vapor entered the discharge tube at a rate of 1.4 g/hour and a pressure of 0.5 mm Hg. The discharge amperage was 0.2 a, the voltage 1000-1200 v. The cooling trap was cooled with liquid nitrogen. 0.7-0.8 g were the initial amounts of condensate in all experiments. The condensate composition was the same in all experiments; the molar ratio between oxygen generating from decomposition and remaining hydrogen peroxide was always 0.15, the concentration of H_2O_2 in the final solution was 50 percents by weight. The decomposition of the condensates was studied in an experimental system that had been likewise described earlier. The decomposition of the peroxide radical condensates with slow heating was found to take place essentially in two stages with different temperature coefficients and different activation energies. The first noticeable separation of oxygen takes place between -95 and -70°C for about 17% of the total oxygen formed. The solid condensate starts melting at -70°C; this process comes to an end at -60°C. In this temperature range, and also on a further heating,

Card 2/5

22005
S/076/61/035/004/013/018
B106/B201

Problem of a higher hydrogen ...

the second more intensive stage of decomposition takes place, at which the chief oxygen amount escapes. The decomposition is completed at -40 to -30°C. Between -110 and -100°C a hardly noticeable step appears in the curve of gas separation, which characterizes a weak decomposition process in which about 3% of the total oxygen is generated. This weak decomposition is accompanied by the disappearance of the yellowish color and by a modification of the condensate structure: the condensate becomes opaque and begins to melt in places. An analysis of the kinetic curve, taken under isothermal conditions, showed the two-stage decomposition reaction in the temperature range -95 to -40°C to be a reaction of first order. The activation energy amounts to 1.2-1.4 kcal for the first stage of decomposition (with condensate in the solid state), but 8.0-9.0 kcal for the second stage of decomposition. The results substantiate the earlier assumption of the higher hydrogen peroxide H_2O_4 being contained in the condensate. The authors reach the conclusion that the assumption put forth by E. Ohara some time ago (Ref. 6) is still the most probable explanation accounting for the results obtained. According to this assumption, the two-stage aspect of the decomposition of the peroxide radical

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Card 3/5

22005
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B106/B201

Problem of a higher hydrogen ...

condensate is due to the decomposition of the H_2O_4 compound, which takes place by different mechanisms in the solid and in the liquid state. Mention is made of Ye. N. Yeremin, who took part in the work of Ref. 7 together with L. I. Nekrasov and N. I. Kobozev. There are 3 figures, 1 table, and 17 references: 7 Soviet-bloc and 10 non-Soviet-bloc. The three most recent references to English language publications read as follows: M. A. P. Hogg, J. E. Spice, J. Chem. Soc., Sept., 3971, 1957; J. A. Gormley, J. Amer. Chem. Soc., 79, 1862, 1957; R. L. Livingston, J. A. Gormley, H. Zeldes, J. Chem. Phys., 24, 483, 1956.

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

SUBMITTED: July 28, 1959

Card 4/5

22005

S/076/61/035/004/013/018
B106/B201

Problem of a higher hydrogen ...

t, °C	$\frac{1}{T}\cdot10^3$, °K^{-1}	min^{-1} k, мин.$^{-1}$	lg k	t, °C	$\frac{1}{T}\cdot10^3$, °K^{-1}	min^{-1} k, мин.$^{-1}$	lg k
ⓐ Метод равномерного нагревания				ⓑ Метод постоянных температур			
−100	5,78	0,00268	−2,572	−100	5,78	0,0088	−2,056
−96	5,65	0,00337	−2,472	−92	5,53	0,0152	−1,818
−93	5,56	0,00330	−2,482	−78	5,13	0,0184	−1,735
−91,5	5,50	0,00359	−2,445	−55	4,58	0,0291	−1,536
−80	5,19	0,00390	−2,408	−54	4,57	0,0231	−1,636
−67	4,86	0,00470	−2,328	−50	4,45	0,0385	−1,414
−57	4,64	0,00950	−2,022	−41	4,31	0,0831	−1,080
−56	4,61	0,0117	−1,932				
−48	4,45	0,0400	−1,398				
−43	4,35	0,0948	−1,024				

Table: (a) method of uniform heating, (b) method of constant temperatures.

Card 5/5

24020
S/076/61/035/005/005/008
B101/B216

11.1320
11.1230

AUTHORS: [illegible], Nekrasov, L. I., Kobozev, N. I., and F[illegible], A. D. (Moscow)

TITLE: [illegible] during dissociation of [illegible] discharge

PERIODICAL: Zh. [illegible] khimii, v. 35, no. 5, 1961, 1026-1030

TEXT: The [illegible] hydrazine [illegible] according to Raschig is the [illegible] must be concentrated [illegible] electric discharge was studied. [illegible] hydrazine by electric discharge [illegible] results obtained by western scientists and [illegible] report on their own experi- [illegible] by them, and report on their own [illegible] of hydrazine formation. For this [illegible] described in Ref. 1? (Zh. fiz. khimii, 31, [illegible] used by the authors of that paper to study the water [illegible] NH$_3$ entered a U-shaped discharge [illegible] discharge [illegible] liquid nitrogen. The [illegible]

Card 1/6

24020

S/076/61/035/005/003/008
B101/B218

St[illegible] of the [illegible] of hydrazine during

[illegible] of stainless steel. The pressure of NH_3, which varied [illegible] 10 mm Hg, was measured by a diaphragm gauge. The flow of NH_3 [illegible] pressure 1 atm. The discharge current [illegible] The hydrazine was [illegible] colorimetrically by means of p-dimethyl [illegible] The fraction of NH_3 which did not react was collected [illegible] H_2SO_4 and determined by titration of the excess acid. The authors found that the yield of N_2H_4 attained a maximum at [illegible] mm Hg, regardless of the discharge intensity. In order to establish a law on the basis of the experimental data, the authors took up/v as a parameter (u is proportional to the discharge, [illegible]; v denotes the rate of flow of the gas, l/hr; p is the gas pressure at the [illegible] of the discharge tube, mm Hg). Fig. 1 shows the degree of dissociation of NH_3 as a function of up/v; Fig. 2 shows the relative yield of N_2H_4 (expressed in % of dissociated NH_3) as a function of up/v. The maximum yield was 1 % referred to dissociated NH_3, and 0.5 %

Card [illegible]

referred to the total amount of NH_3 passed through the apparatus. Experiments at -80 and -196°C showed that the yield of N_2H_4 does not depend on temperature. It is concluded that the formation of hydrazine proceeds according to the equation $NH_2 + NH_2 + M \longrightarrow N_2H_4 + M$ (5), where M is a particle causing recombination. Dissociation of N_2H_4 proceeds according to the equations $N_2H_4 \longrightarrow N_2H_4^* \longrightarrow 2NH_2$ (6) and $N_2H_4 + H \longrightarrow NH_2 + NH_3$ (7). Thus, the yield of N_2H_4 depends on several factors which act together: 1) on the concentration of NH_2 radicals, which is inversely proportional to the dissociation of NH_3; 2) on the concentration of atomic hydrogen, which is directly proportional to the dissociation of NH_3; 3) on the time for which the gas remains in the discharge tube. The shorter this period, the less is the dissociation of N_2H_4. A maximum degree of NH_3 dissociation corresponds to a minimum concentration of NH_2 radicals and to a maximum concentration of atomic hydrogen. Thus, the yield of hydrazine reaches a

X

Card 3/6

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S/076/61/035/005/003/008
Study of the formation of hydrazine during... B101/B218

minimum with maximum dissociation of NH_3 S. S. Vasil'yev and Ye. N. Yeremin are mentioned. There are 2 figures and 14 references: 3 Soviet-bloc and 11 non-Soviet-bloc. The 3 most important references to English-language publications read as follows: J. C. Devins, B. Milton, J. Amer. Chem. Soc., 76, 2618, 1954; G. W. Robinson, M. J. McCarty, J. Chem. Phys., 30, 999, 1959; K. Ouchi, J. Electrochem. Soc. Japan, 20, 381, 1952

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

SUBMITTED: July 3, 1959

Card 4/6

27683
S/076/61/035/009/006/015
B106/B110

11.1510
11.1310

AUTHORS: Skorokhodov, I. I., Nekrasov, L. I., and Kobozev, N. I.

TITLE: The problem of a higher hydrogen peroxide and frozen radicals. V. Thermographic method for studying the decomposition process of peroxide radical condensates

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 9, 1961, 2025 - 2030

TEXT: The decomposition of condensates containing peroxide radicals was studied thermographically. The systems investigated were obtained from water vapors dissociated in an electric discharge, and from the reaction of atomic hydrogen with liquid 100 % ozone at liquid nitrogen temperature. The system obtained from water vapor contained approximately 15 % (by weight) H_2O_4 and considerable amounts of H_2O_2; that from hydrogen and ozone contained up to 60 % H_2O_4 with no H_2O_2. The method of preparation was described previously (Ref. 2: N. I. Kobozev, I. I. Skorokhodov, L. I. Nekrasov, Ye. I. Makarova, Zh. fiz. khimii, 31, 1843, 1957; Ref. 5: L. A. Reznitskiy, K. G. Khomyakov, L. I. Nekrasov. I. I. Skorokhodov, Zh. fiz.

Card 1/4

27683
S/076/61/035/009/006/015
B106/B110

The problem of a higher hydrogen ...

khimii, 32, 87, 1957). The thermographic investigation method was similar, in many respects, to the method of differential-thermal rapid analysis elaborated by G. V. Ravich, G. G. Tsurinov, and V. A. Vol'nova (Ref. 3: Zavodsk. laboratoriya, 19, 802, 1953). Fig. 1 shows the block diagram of the apparatus used. A photorecording Kurnakov pyrometer of the ФПК-55 (FPK-55) type was used for recording the heating curves. Heating was carried out at a constant rate of 15°/min. Automatic recording was switched on at -160 to -150°C, and was continued for about 10 min. The investigations produced the following results: Independent of the preparation method, the peroxide radical condensates contain the same compounds which decompose during temperature increase. The evaluation of thermochemical data (heat effects of 34 - 36 Kcal/mole O_2 at decomposition temperatures $> -55^{\circ}C$) showed that the decomposing compound is the higher hydrogen peroxide H_2O_4, which agrees with the data in Ref. 8 (I. I. Skorokhodov, L. I. Nekrasov, L. A. Reznitskiy, K. G. Khomyakov, N. I. Kobozev, Zh. fiz. khimii, 33, 2090, 1959). The differences in the thermograms of the two systems investigated are based on the following fact: The condensate produced from dissociated water vapor is of disordered structure, and crystallizes at -110 to -70°C. The hydrogen peroxide in

Card 2/4

27683
S/076/61/035/009/006/015
B106/B110

The problem of a higher hydrogen ...

the condensate is responsible for crystallization. During heating in the temperature range of from -110 to -75°C, the heat of crystallization of the amorphous part of the condensate appears, therefore, besides the chemically conditioned thermal effects. On the other hand, the condensate from the reaction of atomic hydrogen with liquid ozone before decomposition contains no hydrogen peroxide, and is of crystalline structure. In this case, no heat of crystallization, only chemically conditioned thermal effects appear. The good agreement of values for ΔH calculated from thermograms with data obtained calorimetrically shows that the thermographic method may be successfully applied to the investigation of frozen systems containing radical and metastable compounds. The authors thank Ye. I. Makarova for conducting the chemical analyses. L. G. Berg and V. Ya. Anosov (Ref. 7: Zh. obshch. khimii, 12, 32, 1942) are mentioned. There are 4 figures, 1 table, and 10 references: 8 Soviet and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: R. A. Jones, C. A. Winkler, Canad. J. Chem., 29, 1010, 1951.

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

Card 3/4

32637

S/076/62/036/001/007/017
B107/B110

11.1510

AUTHORS: Skorokhodov, I. I., Golubev, V. B., Nekrasov, L. I., Yevdokimov, V. B., and Kobozev, N. I.

TITLE: The higher hydrogen peroxide in frozen radicals. V. Electron paramagnetic resonance study of peroxide radical condensates

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 1, 1962, 93 - 97

TEXT: The synthesis of the radical HO_2 either from dissociated water vapor or on reaction between pure ozone and atomic hydrogen at -196°C has been studied by the e.p.r. method. The purpose of the investigation was to check published data (Ref. 1, see below; Ref. 2: A. I. Gorbanev, S. D. Kaytmazov, A. M. Prokhorov, A. B. Tsentsiper, Zh. fiz. khimii, 31, 515, 1957; Ref. 3, see below; Ref. 9: S. D. Kaytmazov, A. M. Prokhorov, Zh. fiz. khimii, 34, 227, 1960) and to establish the maximum HO_2 concentration possible. The resonance spectra of both peroxide-radical condensates exhibit asymmetric maxima at 9000 Mc/sec, irrespective of the method of synthesis. The asymmetry is due to the anisotropy of the g-factor which

Card 1/4

32637
S/076/62/036/001/007/017
The higher hydrogen peroxide... B107/B110

amounts to 2.009. The line width is about 75 oe. Synthesis from dissociated water vapor has shown that the ratio of unpaired electrons to the number of H_2O_2 molecules remaining after the decomposition of the condensate varies from 0 to 0.007, which agrees well with Ref. 1 (0.0065). The divergence from the value given in Ref. 2 (0.004) is explained as follows: The condensate is separated in the cooling trap in the form of two rings, one slightly above the level of liquid nitrogen, which is white and contains about 52% H_2O_2 but no HO_2, while the other below the level is yellowish and contains about 54% H_2O_2 and the radical HO_2. At -110°C, the second ring turns white and the paramagnetic absorption diminishes. Synthesis from pure ozone and atomic hydrogen has shown that the ratio of unpaired electrons to the number of H_2O_2 molecules remaining after the decomposition of the condensate varies from 0.007 to 0.009. From the paramagnetic resonance spectrum alone it is not possible to decide whether the radical HO_2 or the hydroxyl OH is present. The presence of the perhydroxyl HO_2 is, however, supported by the following facts: The gamma spectrum of ice contains a symmetric doublet at -196°C (Ref. 3, see
Card 2/4

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B107/B110

The higher hydrogen peroxide...

below); the resonance spectrum of the condensate in question resembles the gamma spectra of organic compounds, such as Teflon, polyethylene, etc., which contain the radical C-O-O°, as well as the spectrum of the potassium peroxide K-O-O°; when the yellow ring becomes colorless between -110 and -100°C, 3 - 4% by weight of oxygen is separated. The value calculated for the recombination of the radical OH to H_2O and O_2 is 1 - 1.5% by weight, while that for $HO_2 \rightarrow H_2O_2 + O_2$ is 2.5 - 5% by weight. The presence of HO_2 is therefore very probable. The maximum concentration obtained from the measurements amounts to 0.4% by weight. There are 18 references: 10 Soviet and 8 non-Soviet. The four most recent references to English-language publications read as follows: Ref. 1. R. L. Livingston, J. A. Ghormley, H. Zeldes, J. Chem. Phys., 24, 483, 1956; Ref. 3: C. K. Jen, S. N. Foner, E. L. Cochran, V. A. Bowers, Phys. Rev., 112, 1169, 1958; Ref. 13: J. M. Flournoy, L. H. Baum, S. Siegel, S. Scolnik, The fourth international Symposium of free radical stabilization, V, 1958; H. N. Rexroad, W. Gordy, Bull. Amer. Phys. Soc., 1, 200, 1956.

Card 3/4

32637
S/076/62/036/001/007/01
B107/B110

The higher hydrogen peroxide...

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

SUBMITTED: April 5, 1960

Card 4/4

L 61080-65 EPA/EPF(c)/EPF(n)-2/EPA(s)-2/EWP(j)/EWA(c)/EWT(m)/EWP(b)/EWP(t)
Pr-4/Ps-4/Pt-7/Pu-4/Paa-4 IJP(c) RM/WW/JWD/JD Pc-4/

ACCESSION NR: AP5018253

UR/0078/65/010/007/1740/1742
546.33'137'173-31

55
B

AUTHOR: Skorokhodov, I. I.; Kurbatov, G. M.

TITLE: Thermal decomposition of nitrosyl perchlorate

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 7, 1965, 1740-1742

TOPIC TAGS: nitrosyl perchlorate, nitryl perchlorate, thermal degradation

ABSTRACT: X-ray diffraction studies of the solid phase formed by the partial decomposition of nitrosyl perchlorate were carried out in an attempt to determine the mechanism of this process. The compound was decomposed at atmospheric pressure at 130-150C in a stream of nitrogen. Interplanar distances and line intensities for the brightest lines were determined. It was found that the thermal decomposition of nitrosyl chloride in the solid phase produces nitryl perchlorate, as follows:

$$2\ NOClO_4 \rightarrow NO_2ClO_4 + NO_2 + ClO_2.$$

A monotonic increase in the relative amount of nitryl perchlorate in the solid

Card 1/2

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ACCESSION NR: AP5018253

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phase with the duration of the decomposition of the original compound was observed, so that at high degrees of decomposition, the solid phase consisted almost entirely of NO_2ClO_4. No concrete conclusions regarding the transformation of nitrosyl perchlorate could be drawn, however. Orig. art. has: 1 figure, 2 formulas and 1 table.

ASSOCIATION: none

SUBMITTED: 08Jun64 ENCL: 00 SUB CODE: IC

NO REF SOV: 002 OTHER: 009

Card 2/2 KC

L 15135-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 RPL RM/BW/WW/JW/JFW

ACCESSION NR: AP4046080 S/0076/64/038/009/2198/2203

AUTHOR: Skorokhodov, I. I.; Nekrasov, L. I.; Kobozev, N. I.

TITLE: Hydrogen superoxide and frozen radicals. 9. reactions of atomic hydrogen with ozone and oxygen in the gas phase

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 9, 1964, 2198-2203

TOPIC TAGS: hydrogen superoxide, hydrogen peroxide, free peroxide radical, hydrogen oxidation, gas phase oxidation, liquid phase oxidation, ozone oxidizer, oxygen oxidizer

ABSTRACT: In connection with the search for an efficient method of synthesizing hydrogen superoxide, H_2O_4, the gas-phase reactions of atomic hydrogen with ozone and oxygen have been investigated. The purpose of the study was to confirm an earlier assumption concerning the particular role played by the liquid ozone film in the formation of H_2O_4 in the reaction of atomic hydrogen with 100% liquid ozone. The gas phase reactions were carried out in a vacuum apparatus used previously for liquid-phase reactions, and their products — peroxide-radical condensates —were collected in a liquid-nitrogen trap. The products of both gas-phase reactions were identical, containing water, hydrogen peroxide, H_2O_4, and HO_2 free radicals, the latter in

Card 1/2

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ACCESSION NR: AP4046080

very small amounts. However, the H_2O_4 content was about 27% by weight in the product of the ozone reaction, against 15% in that of the oxygen reaction. The composition of both products contrasted sharply with that of the condensate obtained previously in the liquid-phase reaction (40% water and 60% H_2O_4). This fact was taken as an indication of the effect of the liquid-ozone film. Maximum yields of all reaction products in the gas phase were observed at high H/O_3 or H/O_2 ratios. As the ratios are lowered, the yield falls to zero. A reaction mechanism based on experimental data was proposed, according to which H_2O_4 (as well as H_2O_2 and HO_2 free radicals) is formed on the cold walls of the reaction trap, whereas only water is the end product of the reactions in the gas phase. Orig. art. has: 2 figures and 11 formulas.

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

SUBMITTED: 02Nov63 ENCL: 00 SUB CODE: FP, GC

NO REF SOV: 010 OTHER: 009

Card 2/2

L 63565-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/RM

ACCESSION NR: AP5013527 UR/0076/65/039/005/1277/1281
541/.545

33
32
B

AUTHOR: Mal'tsev, Yu. A.; Nekrasov, L. I.; Skorokhodov, I. I.; Oks, N. A.

TITLE: Use of the EM-4 electron diffraction camera for studying products of the low-temperature condensation of dissociated gases and vapors

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 5, 1965, 1277-1281

TOPIC TAGS: electron diffraction camera, free radical

ABSTRACT: Free-radical products of the low-temperature condensation of vapors and gases passed through an electric discharge were studied by using an EM-4 electron diffraction camera modified by the addition of a system for cooling the sample and a system for protecting it from contamination (by water vapor or vacuum lubricant). The design and operation of the systems are fully described. The two systems permit electron diffraction studies from 0 to -190°C. The protective system permits experiments at -190°C for 1½ hours without contaminating the sample. This was demonstrated by an analysis of ammonium chloride (see fig. 1 of the Enclosure). A certain change in the interplanar distances shown by these microphotograms is due to

Card 1/3

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ACCESSION NR: AP5013527

the change in the unit lattice parameters of ammonium chloride as the temperature is reduced. The equipment was used to study peroxide-radical condensates produced by condensation of water vapor. The results are reported by Yu. A. Mal'tsev, I. I. Skorokhodov, and L. I. Nekrasov, in *Zh. fiz. khimii* 37, 2740, 1963. Orig. art. has: 3 figures.

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

SUBMITTED: 07Oct64 ENCL: 01 SUB CODE: ES, GC

NO REF SOV: 009 OTHER: 008

Card 2/3

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ACCESSION NR: AP5013527 ENCLOSURE: 01

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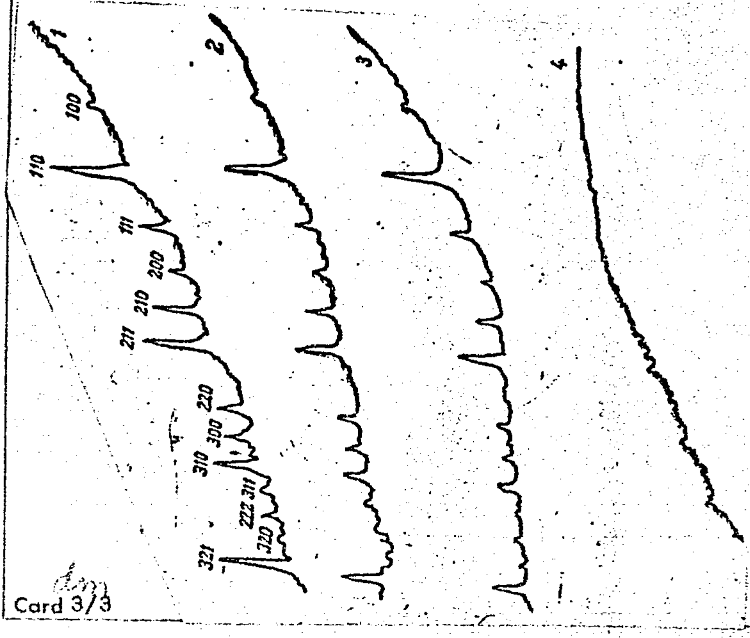

Fig. 1. Microphotograms obtained from electron diffraction patterns of ammonium chloride, recorded: 1--at room temperature; 2--with cooling for 60 min; 3--with cooling for 90 min, using the protective system; 4--with cooling for 40 min without the protective system.

Card 3/3

ACC NR: AP6034150 SOURCE CODE: UR/0076/66/040/010/2361/2365

AUTHOR: Nekrasov, L. I.; Skorokhodov, I. I.; Kobozev, N. I.

ORG: Chemistry Department, Moscow State University im. M. V. Lomonosov (Khimicheskiy fakul'tet, Moskovskiy gosudarstvennyy universitet)

TITLE: Physical chemistry of concentrated ozone. Formation of ozone from oxygen in a glow discharge at low temperatures

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 10, 1966, 2361-2365

TOPIC TAGS: ozone ~~synthesis~~, concentrated ozone, glow discharge, elemental oxygen, ozone formation kinetics, OXYGEN

ABSTRACT: A study has been made of the formation of ozone from oxygen in a glow discharge at 0.5 mm Hg and -196C. The generator was described in an earlier study (N. I. Kobozev et al. Zh. fiz. khimii, 34, 1843, 1957). The generator was operated on voltages ranging from 800 to 1200 v and a frequency of 50 cycles with a discharge current of 0.15 amp. The flow velocity of oxygen varied from 0.1 to 4.0 ℓ/hr. The experiments were directed toward determining the place of ozone formation, and the role of the discharge tube, connecting channel, trap, and presence of elemental oxygen in the trap. It was shown that ozone is formed in the trap, and only in the presence in the reaction zone of a cold surface and elemental oxygen. The glow discharge is only the source of elemental oxygen. In other experiments, the

Card 1/4 UDC: 541.14+541.13

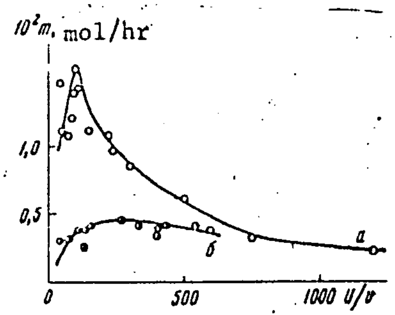

Fig. 1. Dependence of the absolute yield in ozone on the U/V parameter (U, discharge power; V, flow velocity)

a - Inert; b - active surface of the connecting channel.

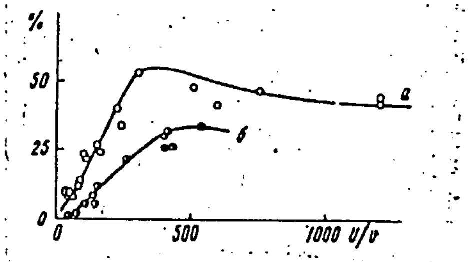

Fig. 2. Dependence of the degree of oxygen conversion on the U/V parameter

a - Inert; b - active surface of the connecting channel.

dependencies of the yield in ozone and of the degree of oxygen conversion on the U/V parameter (U, discharge voltage; V, flow velocity) were studied with the use of connecting channels with inert or active surface (see Figs. 1 and 2). The results of the experiments have indicated the following mechanism of ozone formation:

ACC NR: AP6034150

1) dissociation of molecular oxygen in the discharge tube

$$\left.\begin{array}{l} O_2 + \vec{e} \rightarrow O_2^* + e, \\ O_2^* \rightarrow O + O. \end{array}\right\}; \tag{1}$$

2) recombination of oxygen atoms in the connecting channel

$$O + O + M \rightarrow O_2 + M, \tag{2}$$

(M, walls of the channel).

The reaction 1/reaction 2 ratio determines the amount of elemental oxygen reaching the cold walls of the trap. This ratio depends on such factors as flow velocity and pressure of oxygen, discharge voltage, and state of the surfaces of the discharge tube and connecting channel; 3) reaction of elemental oxygen with oxygen molecules absorbed on the cold walls of the trap

$$O + O_2\cdot S \rightarrow O_3\cdot S, \tag{3}$$

(S, cold walls of the trap).

ACC NR: AP6034150

In the experiments, small amounts of almost 100% liquid ozone have been synthesized. Orig. art. has: 2 figures.

SUB CODE: 07/ SUBM DATE: 13May65/ ORIG REF: 008/ OTH REF: 011/

Card 4/4

SKOROKHODOV, L. N.

Problems in the theory of the welding of plastics by means of ultrasonic waves. Plast. massy no.11:33-35 '62.
(MIRA 16:1)

(Plastics—Welding)
(Ultrasonic waves—Industrial applications)

MORDVINTSEVA, A.V., kand.tekhn.nauk; Prinimali uchastiye: OL'SHANSKIY, N.A., kand.tekhn.nauk; SKOROKHODOV, L.N., inzh.

Ultrasonic welding of small-size polyethylene shells. Trudy MVTU no.106:199-207 '62. (MIRA 16:6)
(Ultrasonic welding) (Plastics--Welding)

SKOROKHODOV, L. Ya.

"Kratki ocherk istorii russkoi meditsiny, Izd. Prakticheskaya Meditsina, Leningrad, 1926, 262 pp.

SKOROKHODOV, L. YA.

USSR/Medicine - Medicine, Military
Medicine - Training

Nov 1947

"Military Medical Academy imeni S. M. Kirov," Prof D. N. Lukashevich, Maj Gen (Med); Docent L. Ya. Skorokhodov, Lt Col (Med), 8 pp

"Voyen-Medits Zhurnal" No 11

Briefly describes history and fundtions of Military Medical Academy imeni Kirov, factor in rapid improvement of military medicine. Soviet military medicine paralleled general development of nation in rise from agricultural economy to become one of great industrial powers of world.

PA 53T75

SKOROKHODOV, L. YA.

"Materialy po istorii meditsinskoy mikrobiologii v dorevolyutsionnoy Rossii (Materials on the History of Medical Microbiology in Prerevolutionary Russia), Medgiz, 1948.

USSR/Medicine - Epidemiology FD-3325

Card 1/1 Pub. 148-21/24

Author : Skorokhodov, L. Ya.

Title : The status of epidemiology in Russia during the first quarter of the 19th century

Periodical : Zhur. mikro. epid. i immun. 10, 90-92, Oct 1955

Abstract : A review of work in the field of epidemiology in Russia during the first quarter of the 19th century from 10 sources dating from 1798 to 1829 is given. The 10 sources are cited.

Institution : --

Submitted : June 24, 1955

SKOROKHODOV, L.Ya.

"A.I.Babukhin, the founder of the Moscow school of histologists and bacteriologists" by A.I.Metelkin, I.A.Alov, IA.E.Kesin. Reviewed by L.IA. Skorokhodov. Zhur.mikrobiol.epid. i immun. 27 no.11:100-103 N '56. (MLRA 10:1)

(BABUKHIN, ALEKSANDR IVANOVICH, 1835-1891)
(METELKIN, A.I.) (ALOV, I.A.) (KESIN, IA.E.)

SKOROKHODOV, L.Ya. (Leningrad)

Pavel Corianinov and his role in the history of Russian medicine.
Vrach.delo no.2:213-215 F '57. (MIRA 10:6)
(GORIANINOV, PAVEL FEDOROVICH, 1796-1865)

SKOROKHODOV, L.Ya.

"Priority of Russian microbiology in bacteriological control of the effectiveness of disinfections; author's abstract. Zhur.mikrobiol. epid. i immun. 28 no.8:77-78 Ag '57. (MIRA 11:2)
(ANTISEPTICS, effects,
bacteriol. control (Rus))

SKOROKHODOV, L.Ya.

History of the Leningrad Microbiology Society. Zhur.mikrobiol.epid. i immun. 28 no.8:156-157 Ag '57. (MIRA 11:2)

(LENINGRAD--MICROBIOLOGY--SOCIETIES)

SKOROKHODOV, L. Ya.

"Dictionary of terms for a course in agricultural microbiology" by A. I. Metelkin, O. A. Metelkin. Reviewed by L. IA. Skorokhodov. Zhur. mikrobiol., epid. i immun. 32 no.8:149 Ag '61. (MIRA 15:7)

(MICROBIOLOGY—DICTIONARIES) (METELKIN, A. I.)
(METELKIN, O. A.)

SKOROKHODOV, L.Ya. (Leningrad)

Russian medicine in the time of Napoleonic wars; on the 150th anniversary of the war of 1812. Sov. zdrav. 21 no.9:67-70'62
(MIRA 17:4)

SKOROKHODOV, Lev Yakovlevich; NEYMAN, M.I., red.

[How microbiology developed] Kak razvivalas' mikrobiologiia. Moskva, Meditsina, 1965. 48 p.
(MIRA 18:9)

ACC NR: AP6015243 (A) SOURCE CODE: UR/0125/66/000/005/0020/0022

36

B

AUTHOR: Skorokhodov, L. N.

ORG: TsNIISK im. V. A. Kucherenko

TITLE: Prevention of crystallization cracks in arc spot welded metal

SOURCE: Avtomaticheskaya svarka, no. 5, 1966, 20-22

TOPIC TAGS: steel, arc welding, spot welding, weld defect, metal crystallization, welding electrode, welding technology/St.3 steel

ABSTRACT: The arc spot welding of elements of St.3 steel more than 10 mm thick results in a low resistance of weld metal to crystallization cracks. It is shown that this may be offset by adjusting the welding conditions and particularly the electrode feed rate. The cracks arise at the boundaries of columnar crystallites and chiefly at the sites of their mutual contact, i.e. they bear a distinct intercrystalline character and are affected by the orientation of these crystallites. Thus, during deep fusion welding of this kind (depth of fusion up to 45 mm), the crystallites contact at their ends if the electrode is stationary during the cavity-filling stage, i.e. when the diameter-to-depth ratio ψ of the weld pool is 1.25. It is established that if during this stage the electrode is additionally fed at the rate of 6 mm/sec, the depth of the weld pool is reduced while its diameter remains

Card 1/2 UDC: 621.791.763:620.191.33

ACC NR: AP6015243

virtually constant, i.e. ψ is increased to 1.7. The crystallites are bent in the direction of the center of the weld pool and the crystallization cracks in the weld metal are partly suppressed so that they do not emerge to the surface of the weld spot. The welding is carried out under tighter conditions (current density 40-50 a/mm^2), with the electrode melting rate being higher than during conventional arc welding. Orig. art. has: 3 figures.

SUB CODE: 11, 13/ SUBM DATE: 10Jun65/ ORIG REF: 003

Card 2/2

SKOROKHODOV, Mikh.

Tractors

All-purpose machine. Sov. Zhen. No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952 ~~1953~~, Uncl.

KLEMENT'YEVA, A.I.; SKOROKHODOV, M.A.; Prinimali uchastiye: ALEKSANDROV, G.P.; BABUN, F.Ya.; BAYBARIN, P.P.; VAYNSHTEYN, TS.Z.; GUSEV, L.V.; ZHETVIN, N.P.; KONTSEVAYA, Ye.M.; LEVINA, M.M.; NOVLYANSKAYA, K.A.; PODVOYSKIY, L.N.; TRUNTSEV, D.S.; FLEROV, N.G.; CHIKHACHEV, I.A.; YUROV, Yu.M.; GUDKOVA, N., red.; YEGOROVA, I., tekhn.red.

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KOVALENKO, Vladimir Ivanovich; SKOROKHODOV, Mikhail Arkad'yevich;
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[Under the North Star] Pod Poliarnoi zvezdoi. Moskva, Izd-vo
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(Nenets National Area--Description and travel)

SKOROKHODOV, N.

Electric fences for forest and shrubby pastures. Mias. ind. SSSR no.2:33-34 '57. (MLRA 10:5)

1. Starshiy zootekhnik Smolenskoy oblastnoy kontory Rosglavzagotskotootkorma.
(Electric fences)

SKOROKHODOV, N.,

With the new curricula. Sov.profsoiuzy 6 no.16:34-35 N '58.
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SKOROKHODOV, N.Ye., kandidat tekhnicheskikh nauk; ZAYKOV, M.A., kandidat tekhnicheskikh nauk; KOROLEV, A.S., inzhener; SKOROKHODOVA, V.F., inzhener.

Measuring the pressures exerted in the cold rolling of thin sheets. Trudy Sib.met.inst. no.2:5-18 '55. (MLRA 9:12)

(Strains and stresses) (Rolling (Metalwork))

SKOROKHODOV, N.Ya., kandidat tekhnicheskikh nauk, dotsent; GOLUBEV, T.M., professor, doktor tekhnicheskikh nauk; ZAYKOV, M.A., kandidat tekhnicheskikh nauk; CHELYSHEV, N.A., kandidat tekhnicheskikh nauk, dotsent; KOROLEV, A.S., inzhener; OSHIN, V.I., inzhener.

Determining acting forces in friction and eccentric presses.
Trudy Sib.met.inst. no.2:19-29 '55. (MLRA 9:12)

(Strains and stresses) (Power presses)

SKOROKHODOV, N.Ye., dotsent; KUCHKO, I.I., inzhener; KOROLEV, A.S.;
SEMKIN, M.G.; BUKHVOSTOV, I.G.

Investigation of the rolling of experimental rails. Trudy TSNII
MPS no.111:25-32 '55. (MLRA 9:5)
(Railroads--Rails)

SKOROKHODOV, N.Ye., dotsent; CHELYSHEV, N.A., kand.tekhn.nauk; ZAYKOV, M.A., dotsent; FROLOV, N.P., inzh.; KOROLEV, A.S., inzh.; KRAVCHENKO, L.Ya., inzh.; SKOROKHODOVA, V.F., inzh.; ABAKUMOV, V.A., dotsent [deceased]; KAFTANOV, M.P., inzh.

Investigating conditions of rolling plain and shaped sections on a medium-shape rolling mill. Trudy NTO Chern.met. 15:24-55 '59. (MIRA 13:7)
(Rolling mills)

SKOROKHODOV, N.Ye., prof. otv. red.; AGAPOV, V.F., prof. po nauchnoy rabote, dots., red.; BOYARSHINOV, M.I., prof., red.; VESELOVSKAYA, Ye.S., red.; GAGEN-TORN, A.V., red.; GOL'DSHTEYN, N.A., red.; IVANOV, N.I., kand. tekhn. nauk, dots., red.; KORZH, P.D., prof., red.; PETROV, V.M., dots. kand. tekhn. nauk, red.

[30 years of the Magnitogorsk Mining and Metallurgical Institute] XXX let MGMI. Magnitogorsk, 1962. 170 p. (MIRA 17:3)

1. Magnitogorsk. Gorno-metallurgicheskiy institut. 2. Sekretar' partiynogo byuro Magnitogorskogo gorno-metallurgicheskogo instituta (for Petrov). 3. Dekan metallurgicheskogo fakul'teta Magnitogorskogo gorno-metallurgicheskogo instituta (for Ivanov). 4. Zaveduyushchiy kafedroy fiziki Magnitogorskogo gorno-metallurgicheskogo instituta (for Korzh). 5. Zaveduyushchiy kafedroy obrabotki metallov davleniye Magnitogorskogo gorno-metallurgicheskogo instituta (for Boyarshinov).

L 20779-66 EWP(k)/EWT(d)/EWT(m)/EWP(h)/EWP(l)/EWP(v)/EWP(t) HW/JD

ACC NR: AP6005559 SOURCE CODE: UR/0148/65/000/010/0084/0089

AUTHOR: Skorokhodov, N. Ye; Subbotin, V. A. 30

ORG: Magnitogorsk Mining and Metallurgy Institute (Magnitogorskiy gornometallurgicheskiy institut) B

14

TITLE: Study of the performance of composite rolling-mill rolls

SOURCE: IVUZ. Chernaya metallurgiya, no. 10, 1965, 84-89

TOPIC TAGS: composite roll, rolling mill, cold rolling, hot rolling

16

ABSTRACT: It is shown that the working surface of rolling-mill rolls can be easily renewed and roll changing eliminated by using rolls of the composite type, consisting of a fixed central core surrounded by two semi-cylinders that are fitted together. Rolls of this kind (Fig. 1), have been experimentally used for 10 months in the cold rolling of lead, aluminum, and copper and in the cold and hot rolling of low-carbon steel. It was thus estabilished that the fastening of the semi-cylinders to the steel core of the roll is sufficiently strong and reliable even under conditions of extra-high loading. This new design dispenses with the need for roll changing, since now the roll core is a permanent part of the rolling stand and only the semi-cylinder need be replaced. The new design is suitable for both smooth and grooved rolls. This was also confirmed by laboratory tests on models of two- and

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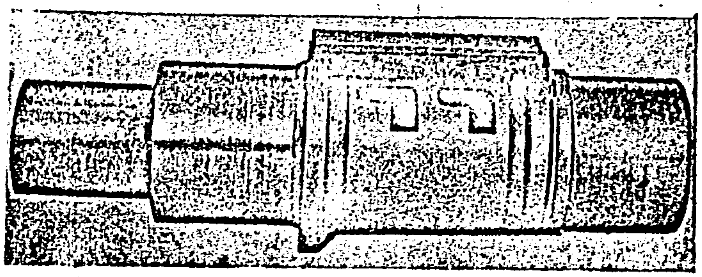

Fig. 1. Composite roll with lengthwise-split barrel (one semi-cylinder removed)

Card 2/3

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four-high mills, and by the concomitant analysis of rolling kinograms. On entry into the area of deformation the gap between the joints of the semi-cylinders decreases owing to the compacting pressure, thus preventing any flowage of metal into the gap. The elimination of roll changing increases the productivity of rolling mills, while the fact that the roll core is now a permanent fixture facilitates the entire technological process and its automation. Orig. art. has: 5 figures.

SUB CODE: 11, 13/ SUBM DATE: 12Apr65/ ORIG REF: 000/ OTH REF: 000

Card 3/3

SKOROKHODOV, P. I.

PA 52T53

USSR/Medicine - Grain
Medicine - Hybridity

Oct 1947

"Rationalization of the Method and Technique of Interhybridization of Grains," P. I. Skorokhodov, Turkmen State Selection Station, Bayram-Ali, 2½ pp

"Dok Akad Nauk SSSR" Vol LVIII, No 1

The Turkmen selection station first began hybridization on a large scale in 1946. Experimenters faced a number of difficulties in the form of unsolved problems of the biology of blooming under specific conditions in the subtropical climate of Turkmeniya. Reports a method of pollination, called limited free pollination, developed under these conditions. Submitted by N. A. Maksimov, 7 Apr 1947.

52T53

[redacted]

SKOROKHODOV, P.I.

Dynamics of the moisture of light-colored Chestnut soils under the protection of forest strips. Pochvovedenie no.2:74-79 F '64.
(MIRA 17:3)

1. Volgogradskaya sel'skokhozyaystvennaya opytnaya stantsiya.

SKOROKHODOV, P.M., inzh.; KONDAKOV, L.A., inzh.

Phasing at 110 kv. Energetik 8 no.1:28-29 Ja '60.
(MIRA 13:5)

(Electric currents)

SKOROKHODOV, P.M.

Concerning the modernization of the SLP-2 steeloscope. Energetik 10 no.4:32-33 Ap '62. (MIRA 15:4)
(Steampipes--Testing)

AUTHOR: Skorokhodov, S.A., Foreman SOV-91-58-4-12/29

TITLE: Some Problems of Organizing the Electric Assembly Work at a 220 kv Substation (Nekotoryye voprosy organizatsii elektromontazhnykh rabot na podstantsii 220 kv)

PERIODICAL: Energetik, 1958, Nr 4, pp 15-18 (USSR)

ABSTRACT: The author suggested and introduced some rationalization projects improving the quality and speeding up the rate of electric assembly work. A description of a new design of the hydrostatic level utilized for checking and displacing horizontal axles of large-sized construction and equipment is given. Deficiencies of the former design, (continuous liquid consumption which stops operation and the breakage of glass pipes) are eliminated by this new design. The installation of air circuit-breakers of the "VV-220" type by means of a 3-ton automatic crane is described, as well as the assembly and installation of "RLNZ-220" type disconnectors. These disconnectors are supplied in nonassembled state and each pole is assembled and set on the earth before being lifted by an automatic crane. The installation of current transformers of the "TFND-220" type by means of a 3-ton automatic crane is also described. These current transformers

Card 1/2

SOV-91-58-4-12/29

Some Problems of Organizing the Electric Assembly Work at a 220 kv Substation

are supplied in an assembled state, filled with oil. Their total weight is 4,400 kg, including 1,500 kg of oil. There are 4 diagrams and 1 graph.

1. Electric power plants--Substations--Construction

Card 2/2

SKOROKHODOV, S.A.

[Credit for commercial enterprises] Kreditovanie torgovykh organizatsii. Moskva, Gostorgizdat, 1961. 103 p. (MIRA 15:8)

(Credit)

SKOROKHODOV, Sergey Alekseyevich; KARPOVA, L.A., red.

[Developing credit to the domestic trade of the U.S.S.R.] Razvitie kreditovaniia vnutrennei torgovli SSSR. Leningrad, Izd-vo Leningr. univ., 1964. 159 p. (MIRA 17:6) [illegible], [illegible]

[illegible], [illegible] - "The effect of hydrocarbon radicals on the stability and isomeric transformation of the metalacetolides of arylalkyl and aliphatic alpha-keto alcohols (alpha-hydroxy oxides)." Leningrad, 1955. Leningrad Order of Lenin State U imeni A. A. Zhdanov. (Dissertations for degree of Candidate of Chemical Sciences)

So: *Knizhnaya letopis'*, No 48. 26 November 1955. Moscow.

SKOROKHODOV, S. S.

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Cyclic acetals of hydroxy carbonyl compounds. VI. Isomerization of "methyllactolides" of α-oxo alcohols into methyl ethers of isomeric β-oxo alcohols. T. I. Temnikova, A. K. Petryaeva, and S. S. Skorokhodov (State Univ., Leningrad). *Zhur. Obshchei Khim.* 25, 1575-85 (1955); cf. *C.A.* 48, 12025*b*.—The best isomerizing catalyst for isomerization of methyllactolides, $\mathrm{MeO\overline{CR.CR^1R^2.O}}$, of oxo alcs. is $ZnCl_2$; the derivs. of tertiary oxo alcs. require more drastic conditions than do the corresponding derivs. of secondary alcs. The methyllactolides of alkaromatic oxo alcs. display an absorption band at 917 cm.$^{-1}$, characteristic of the oxide ring in these compds. To 20 g. *PhCOCHMeEt* in dioxane was added 60 g. dioxane-Br, yielding 81.1% *bromo deriv.*, b$_3$ 111-13°, which (52.27 g.) treated with MeONa (from 10 g. Na) suspended in Et_2O, gave in 10 hrs. 03.6% *1-methoxy-1-phenyl-2-methyl-1-butene oxide* (I), b$_3$ 75.5-6°, b$_7$ 101-2°, d$_{14}$ 0.9993, n$^{14}_D$ 1.4051, absorption max. 265, 257, 254, 252, and 243 mμ. Heating this 4 hrs. with 5% H_2SO_4 gave 58.9% *MeEtC(OH)Bz*, b$_4$ 115-5.5°, d$_{19}$ 1.054, n$^{19}_D$ 1.5210, which has absorption max. 320 and 284 mμ. Refluxing PhCOCBrMeEt in aq. alc. NaOH 2 hrs. gave the same alc., b$_5$ 113-13.5°. 2-Hexanol with PBr_3 gave 52.5% 2-bromohexane, b$_{20}$ 47-8°, which conventionally yielded *2-methyl-1-phenyl-1-hexanol*, b$_4$ 130-2°; this (101.3 g.) and 83 g. $K_2Cr_2O_7$ in 484 g. H_2O was treated with 62.5 ml. H_2SO_4 and 120 ml. H_2O and after 1 hr. at 70° yielded 82.3% *2-methyl-1-phenyl-1-hexanone*, b$_3$ 109-10°, d$_{20}$ 0.057, n$^{20}_D$ 1.5070, which with dioxane-Br gave 71% *2-bromo-2-methyl-1-phenyl-1-hexanone*, b$_6$ 137-9°; this treated with MeONa in Et_2O gave 58.3% *1-methoxy-1-phenyl-2-methyl-1-hexene oxide*, b$_3$ 07-8°, d$_{20}$ 0.9958, n$^{20}_D$ 1.4884. This heated with 5% H_2SO_4 as above gave 50% *MeBuC(OH)Bz*, b$_7$ 118-19°, d$_{20}$ 1.021, n$^{20}_D$ 1.5192, also obtained in 74.4% yield from the above bromo ketone by hydrolysis with alc. aq. NaOH; the latter procedure gave the carbinol, b$_4$ 127-8°, d$_{20}$ 1.016, n$^{20}_D$ 1.5150. Heating 2-methoxy-2-phenyl-3-ethylethylene oxide 30 min. at 60-70° with porous plates satd. with $ZnCl_2$ soln. and dried at 110°, followed by distn. gave a distillate, b$_7$ 104-5°, without residue; addn. of 7 drops Et_2O soln. of $ZnCl_2$ to the above oxide gave a vigorous reaction, resulting in formation of *PhCH(OMe)CO*[illegible] 99.5-9.8°, d$_{20}$ 1.015, n$^{20}_D$ 1.5050; *semicarbazone*, m. 150-1°; *2,4-dinitrophenylhydrazone*, m. 140-1°. To 11.12 g. 2-methoxy-2-phenyl-3,3-dimethylethylene oxide was added 3 ml. satd. $ZnCl_2$ in Et_2O and after 1 hr. at 110° there was formed 87% *MePhCAcOMe*, b$_4$ 89-90°, n$^{18}_D$ 1.5088. Similarly 1-methoxy-1-phenyl-2-methyl-1-butene oxide gave *3-methoxy-3-phenyl-2-pentanone*, b$_5$ 98-9°, d$_{20}$ 1.025, n$^{20}_D$ 1.5050 (*oxime*, m. 98-9°), which with $PhSO_2Cl$ in 10% NaOH gave 89.8% EtBz, identified as the semicarbazone, m. 173-4°. Similarly $ZnCl_2$ in Et_2O added to 1-methoxy-1-phenyl-2-methyl-1-hexene oxide gave 73.4% *3-methoxy-3-phenyl-2-heptanone*, b$_2$ 108-0°, d$_{20}$ 0.992, n$^{20}_D$ 1.5003 (*oxime*, m. 71-2°). To PhMgBr from 2 g. Mg was added 4 g. PhCH(OMe)-COEt, yielding after 5 hrs. refluxing and usual hydrolysis, an unstated yield of the *α-isomer* of *EtPhCBzOH*, m. 83°; the *β-isomer* was prepd. similarly from benzoin Me ether; the product, m. 64°. The spectra of these compds. are shown.

G. M. Kosolapoff

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SKOROKHODOV S. S.

USSR / Physical Chemistry. Molecules. Chemical Bond B-4

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 25788

Author : S.S. Skorokhodov
Inst : Leningrad University
Title : Infrared Spectra of α-Oxides

Orig Pub : Vestn. Leningr. un-ta, No 16, 110-116 - 1956

Abstract : Spectra of α-methoxy- -phenyl-β-ethylethylene and -methoxy-β-ethylethylene (RZhKhim, 1956, 39530) were obtained in order to make the data of infrared spectra of -methoxyoxides more precise. It follow from the obtained results and bibliographic data that the frequency of about 900 cm^{-1} is characteristic of α-methoxyoxides containing phenyl in the α position. Monoreplaced α-oxides of the aliphatic series with heavy normal radicals (octyl and heavier) have a band of about 917^{-1} which is missing by propylene oxide. Asymmetric direplaced α-oxides (ethyl esthers of

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Skorokhodov, S.S.

1 2

Cyclic acetals of hydroxycarbonyl compounds. VII. Preparation and properties of the methyl lactolide of "oxoctenol" (oxide of α-methoxy-α-*tert*-butyl-β,β-dimethylethylene). T. I. Temnikova and S. S. Skorokhodov (State Univ., Leningrad). *Zhur. Obshchei Khim.* 26, 1897-1901(1956); cf. *C.A.* 50, 7725c.—To 20.53 g. $Me_3CCOCHMe_2$ in dioxane was added 45 g. dioxane-Br and after 1.5 hrs. at 70-80° there was obtained 82.7% $Me_3CCOCMe_2Br$, b_7 52-3°. This (42.29 g.) was added over 1 hr. to 5.7 g. Na in 220 ml. dry MeOH and after 4 days at room temp. the soln. was satd. with CO_2, filtered rapidly, and immediately fractionated yielding 10.6 g. putative $Me_3C\overline{C(OMe).CMe_2.O}$ (I), b_{14} 77-8°, b. 154-5°, d_{20} 0.8918, n_D^{20} 1.4173, which does not show absorption bands typical of HO and C:O groups and does display an abs. max. at 896 cm.$^{-1}$ typical of the oxide ring; a small amt. of Me_3COCMe_2OMe, b_{17} 70-1°, n_D^{20} 1.4260, was also isolated. The ppt. from the above isolation was washed with Et_2O and distd. yielding 7.33 g. "oxoctenol"; heating the product with dil. acid gave a further yield of this substance. "Oxoctenol" (II) had been regarded as a cyclic compound but was shown by its infrared spectrum to be $Me_3CCOCMe_2OH$ (cf. *C.A.* 50, 4781g). Shaking I with dil. H_2SO_4 gives 71.8% II, m. 49°. G. M. Kosolapoff

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