KRUGLYAKOVA, G.I.; YASINSKAYA, A.A.

Magnetic susceptibility of zinc blendes as a function of the displacement of zinc in them by iron. Izv.AN SSSR. Ser.geofiz. no.3:225-227 My-Je '53. (MLRA 6:6)

1. Akademiya nauk Ukrainskoy SSR, Institut geologii poleznykh iskopayemykh.
(Magnetism) (Sphalerite)

Clarifies the relationship of magnetic susceptibility to chemical compn. Investigate magnetic susceptibility, using A.G.Kalashnikov's system torsion balance. Establish that magnetic susceptibility of zinc blendes can be represented as a linear function of the per cent of substitution of zinc by iron.

258T84

KRUGLYAKOVA, G.I.

Effect of accessory minerals on the formation of reverse polarity rock massifs. Izv.AN SSSR. Ser.geofiz. no.2:214-217 F '55. (MLRA 9:7)

1.Akademiya nauk USSR, Institut geologii poleznykh iskopayemykh.
(Magnetism, Terrestial)

SOV/169-59-6-5678

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 6, pp 36 - 37 (USSR)

AUTHOR: Kruglyakova, G.I.

TITLE: Using the Value of the Residual Magnetization Vector for the Geological Interpretation of Geomagnetic Data

PERIODICAL: Novosti neft. tekhn. Geologiya, 1958, Nr 5, pp 29 - 33

ABSTRACT: The author reports that it is expedient for an exhaustive interpretation of magnetic survey data to determine not only the vector of the inductive magnetization I_i depending on the magnetic susceptibility of rocks, but also the vector of the residual magnetization I_r. Because the rocks are demagnetized in the course of time, the ratio I_r/I_i is inversely proportional to the time passed since the moment of the rock's origination. Hence, this relation may be utilized for determining the stratigraphic and, partly, also the absolute age of magma formations characterizing the structure of the basis and, sometimes, also of the sedimental rocks. The curve of the dependence of the ratio I_r/I_i

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SOV/169-59-6-5678

Using the Value of the Residual Magnetization Vector for the Geological Interpretation of Geomagnetic Data

on the age of rocks is given; this ratio I_r/I_i is approximately zero for the Archean era, but for younger formations the ratio increases with an increasing rate and attains a value of 40 and more for rocks of the Tertiary period. The considerable importance of investigating the vector of residual magnetization for the study of the paleomagnetism is emphasized.

M.V. Sokol'skiy

Card 2/2

24(3)

AUTHOR: Kruglyakova, G. I.

SOV/20-123-3-17/54

TITLE: The Dependence of the Magnetic Susceptibility of Salts on the Content of Water in Them (Zavisimost' magnitnoy vospriimchivosti soley ot soderzhaniya v nikh vody)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 443-445 (USSR)

ABSTRACT: The astatic magnetometer of S. Sh. Dolginov is very often used for the determination of the magnetic susceptibility of rocks. It is advantageous to graduate this apparatus according to the relative method, using paramagnetic salts. Various salts (which can be anhydrous or hydrated) are used for the graduation of this astatic magnetometer by field- and stationary magnetic laboratories: Anhydrous salts: $CoCl_2$, $CoSO_4$, $NiSO_4$, $NiCl_2$, $MnSO_4$, $MnCl_2$, $FeSO_4(NH_4)_2SO_4$. Crystal hydrates: $CoCl_2 \cdot 6H_2O$, $COSO_4 \cdot 7H_2O$, $NiSO_4 \cdot 7H_2O$, $NiCl_2 \cdot 6H_2O$, $MnSO_4 \cdot 5H_2O$, $MnCl_2 \cdot 4H_2O$, $FeSO_4(NH_4)_2SO_4 \cdot 6H_2O$. The dependence of the magnetic susceptibility of a salt on its water content is not described by a straight line between the maximum value of the magnetic

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susceptibility of the anhydrous salt and the zero value of the magnetic susceptibility which corresponds to 10% of distilled water. The author in short describes the investigations carried out in order to find the dependence of the magnetic susceptibility of the salt on the water content. This dependence can be characterized by a broken line. The higher the magnetic susceptibility of an anhydrous salt, the sharper the breaks of the lines. In some cases (of low magnetic susceptibility), the breaks are hardly noticeable. The first part of the curve connects the magnetic susceptibility of the anhydrous salt with the magnetic susceptibility of its crystal hydrate, it characterizes their mechanical two-phase mixtures of various percentages of the 2 phases. If the added water increases in quantity, more and more molecules of the anhydrous salts are hydrated and magnetic susceptibility decreases to the value of the magnetic susceptibility of the fully hydrated crystal hydrate. The second part of the curve characterizes the two-phase mixture of the crystal hydrate with the saturated solution of the salt. It connects the magnetic susceptibilities of the crystal hydrate and of the saturated solution of the

The Dependence of the Magnetic Susceptibility of Salts on the Content of Water in Them

SOV/20-123-3-17/54

given salt, characterizing their mechanical mixture. The third part connects the magnetic susceptibilities of the saturated solution and of distilled water. According to these considerations, the concentration of the salt in the solution may be deduced from the magnetic susceptibility of the solution. There are 1 figure and 2 Soviet references.

ASSOCIATION: Institut geologii poleznykh iskopayemykh Akademii nauk USSR (Institute of the Geology of Useful Minerals of the Academy of Sciences, UkrSSR)

PRESENTED: June 10, 1958, by V. N. Belov, Academician

SUBMITTED: June 10, 1958

Card 3/3

SUBBOTIN, S.I.; BONDARENKO, A.P.; KRUGLYAKOVA, G.I. [Kruhliakova, H.I.]; KLUSHIN, V.I.; NAUMCHIK, Yu.L.; PETKEVICH, G. I [Petkevych, H.I.]

Progress in geophysical studies of western regions of the Ukrainian S.S.R. during the Soviet regime. Pratsi Inst. geol. kor.kop. AN URSR 1:118-148 '59. (MIRA 14:6)
(Ukraine--Prospecting--Geophysical data)

S/049/60/000/01/022/027
E201/E191

AUTHORS: Kruglyakova, G.I., and Kruglyakov, V.V.

TITLE: ~~The Effect of the~~ Nature of Lava Flow on Remanent Magnetization in Rocks

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, No 1, pp 158-160

TEXT: The experiments were carried out on basalt deposits in Berestovets and Yanova Dolina in Volyn (Ukrainian SSR). The lava streams were between 12 and 14 m thick. It was found (Table on p 160) that the vector of remanent magnetization in basalt reflects the geomagnetic field existing during the period of formation of the rock only in the portion where lava flow was laminar. If lava solidified below 675 °C the direction of the vector of remanent magnetization could differ greatly from the direction of the geomagnetic field of the given period even in portions where the flow was laminar. The edges of lava streams, where turbulent motion occurred, had random magnitudes and directions of remanent magnetization which were not necessarily related to the magnitude and direction of the geomagnetic field of the given geological period. It follows therefore that in paleomagnetic investigations

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S/049/60/000/01/022/027
E201/E191

The Effect of the Nature of Lava Flow on Remanent Magnetization in Rocks

one should use samples near lava craters, and then only the central portions of lava streams.
There are 1 table and 4 references: 3 Soviet and 1 English.

ASSOCIATION: Akademiya nauk USSR, Institut geologii poleznykh iskopayemykh
(Institute of Geology of Useful Minerals, Academy of Sciences, Ukrainian SSR)

SUBMITTED: January 8, 1959

Card 2/2

KRUGLYAKOVA, G.I.

Relationship between magnetic anomalies and the relief of the terrain. Trudy NIZMIR no.16:39-52 '60. (MIRA 14:3)
(Magnetic anamolies)

S/169/62/000/008/004/090
E202/E192

AUTHOR: Kruglyakova, G.I.

TITLE: The possibility of studying age relationships of rocks according to their state of magnetisation

PERIODICAL: Referativnyy zhurnal, Geofizika, no.8, 1962, 9, abstract 8 A 44. (In the Symposium: 'Sostoyaniye i perspektivy razvitiya geofiz. metodov poiskov i razvedki polezn. iskopayemykh' ('The present state and perspectives of developing geophysical methods of locating and prospecting for useful minerals'), M., Gostoptekhizdat, 1961, 509-512).

TEXT: Periodic changes in the polarity of Earth were established on the basis of paleomagnetic studies. Once the changes in the polarity are known in sufficient detail they may be used to develop a geochronological scale which is useful in studies of sedimentary barren beds. In the case of eruptive rocks the relation between the magnitude of the residual magnetisation vector and the magnitude of induction has also to be considered.

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This ratio will be close to zero in the case of more archaic, and will approach maximum in the case of recent formations. On these bases, having determined the quantity of the above relation for the samples of various ages, it is possible to use this parameter in determining the age of crystalline rocks. Certain massifs of the Ukrainian shield were studied, for which the relation between the magnetisation and age was established.

[Abstractor's note: Complete translation.]

KRUGLYAKOVA, G.I.

Results of paleomagnetic studies of the Ukrainian crystalline massif and adjacent region. Izv. AN SSSR. Ser. geofiz. no. 2:238-244 F '61. (MIRA 14:2)

1. Institut geologii poleznykh iskopayemykh AN USSR.
(Ukraine--Rocks--Magnetic properties)

KRUGLYAKOVA, G.I.

Results of paleomagnetic research in the Ukraine. Izv. AN SSSR. Ser. geofiz. no.11:1674-1678 N '61. (MIRA 14:11)

1. Akademiya nauk USSR, Institut geologii poleznykh iskopayemykh.
(Ukraine--Rocks--Magnetic properties)

BORISOV, A.A.; KRUGLYAKOVA, G.I.

Deep-seated structure of the earth's core at Transcarpathia.
Izv. AN SSSR. Ser. geofiz. no.11:1497-1501 N '62.(MIRA 15:11)

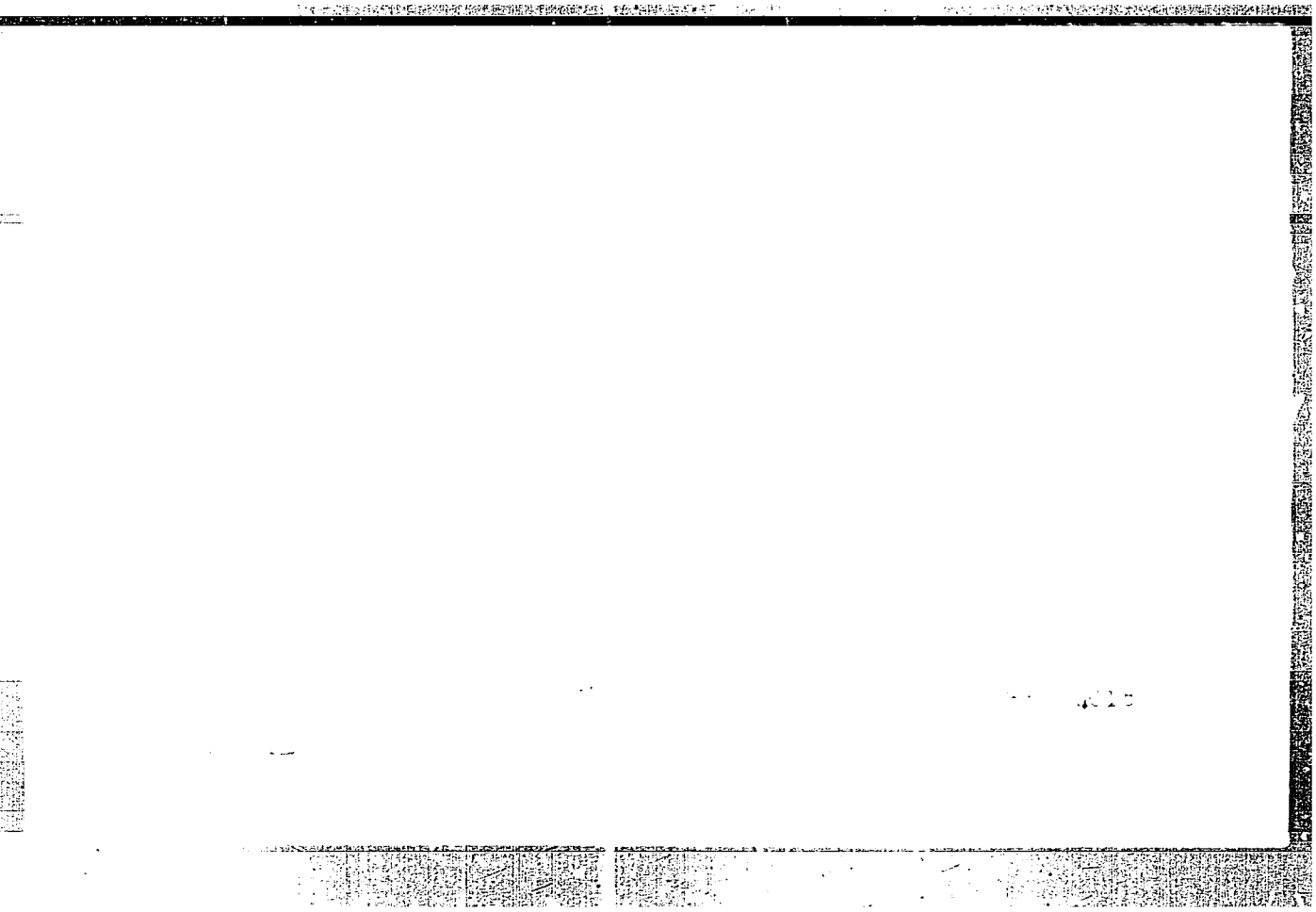
1. L'vovskiy filial Instituta geofiziki AN UkrSSR.
(Transcarpathia--Earth--Internal structure)

KRUGLYAKOVA, G.I. (Soviet Union)

Interpretation of magnetic anomalies and the deep tectonic structure in Transcarpathia. Geofiz kozl 13 no.2:175-200 '64.

[illegible] magnetism i aeronomiya, v. [illegible]

TOPIC TAGS: anomalous magnetic field, aerial magnetic anomaly, magnetic surveying, [illegible] Alpha, aeromagnetic surveying



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826720006-0"

ACC NR: AP7008912 SOURCE CODE: UR/0215/66/000/011/0068/0077

AUTHOR: Kruglyakov, V. V.; Kruglyakova, G. I.

ORG: Leningrad Division, Institute of Terrestrial Magnetism, the Ionospher and Radio Wave Propagation (Institut Zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln, Leningradskoye otdeleniye)

TITLE: Importance of epeirogenic curves for interpreting the spatial distribution of the geomagnetic field

SOURCE: Sovetskaya geologiya, no. 11, 1966, 68-77

TOPIC TAGS: geomagnetic field, geophysics

SUB CODE: 08

ABSTRACT:

The paper begins with a discussion of the importance of a knowledge of the distribution of the geomagnetic field for determining the presence of mineralization and a description of the geomagnetic field of the Southern Urals at different heights. Fig. 1 shows ΔT_a anomalies at a height of 6 km; Fig. 2 is the same for a height of 30 km; Fig. 3 is a diagram of the block structure of the Southern Urals. The Southern Urals have a block structure and the blocks are separated by a network of deep faults of different age. The new data which can be obtained from the use of epeirogenic curves (supplementing other methods) is the main part of the article. It is shown that their use in analyzing the thicknesses and rates of accumulation of sediments within this area (from the Precambrian to the Upper Paleozoic) gives important information on the characteristics of development of these blocks and the

Card 1/2 UDC: 550.38

ACC NR: AP7008912

history of development of the region as a whole. Specifically, by a comparison of the geophysical fields of the blocks and the character of sedimentation it is possible to establish for each block: whether the geophysical field of the region is caused only by the influence of the petrographic composition of the rocks forming the basement or if the geotectonic characteristics of the area also play a role. Comparison of the pattern of spatial distribution of the magnetic field and the character of sedimentation makes it possible to detect deep faults among the surface faults, the time they were formed and the periods of their maximum activity. The deep faults in the Southern Urals detected by this method are of importance in evaluating the metallogeny of the area and the conditions of ore formation. Analysis of the epeirogenic curves can be used for correlation of faults in relation to an evaluation of their role in mineral formation. Orig. art. has: 4 figures. [JPRS: 39,718]

Card 2/2

KRUGLYAKOVA, I.F.

Comparative evaluation of the depressive action of some drugs on the retinal vessels. Vestn. oftal. 76 no.4:34-38 Jl-Ag'63 (MIRA 17:1)

1. Kafedra glaznykh bolezney (zav. - prof. O.I.Shershevskaya) Novokuznetskogo instituta usovershenstvovaniya vrachey.

USSR/Chemistry - Peroxides Jun

"Is There a Higher Peroxide of Hydrogen?" Prof N. M. Emanuel', K. Ye. Kruglyakova, Inst of Chem Phys, Acad Sci USSR

"Priroda" Vol 41, No 6, pp 103-105

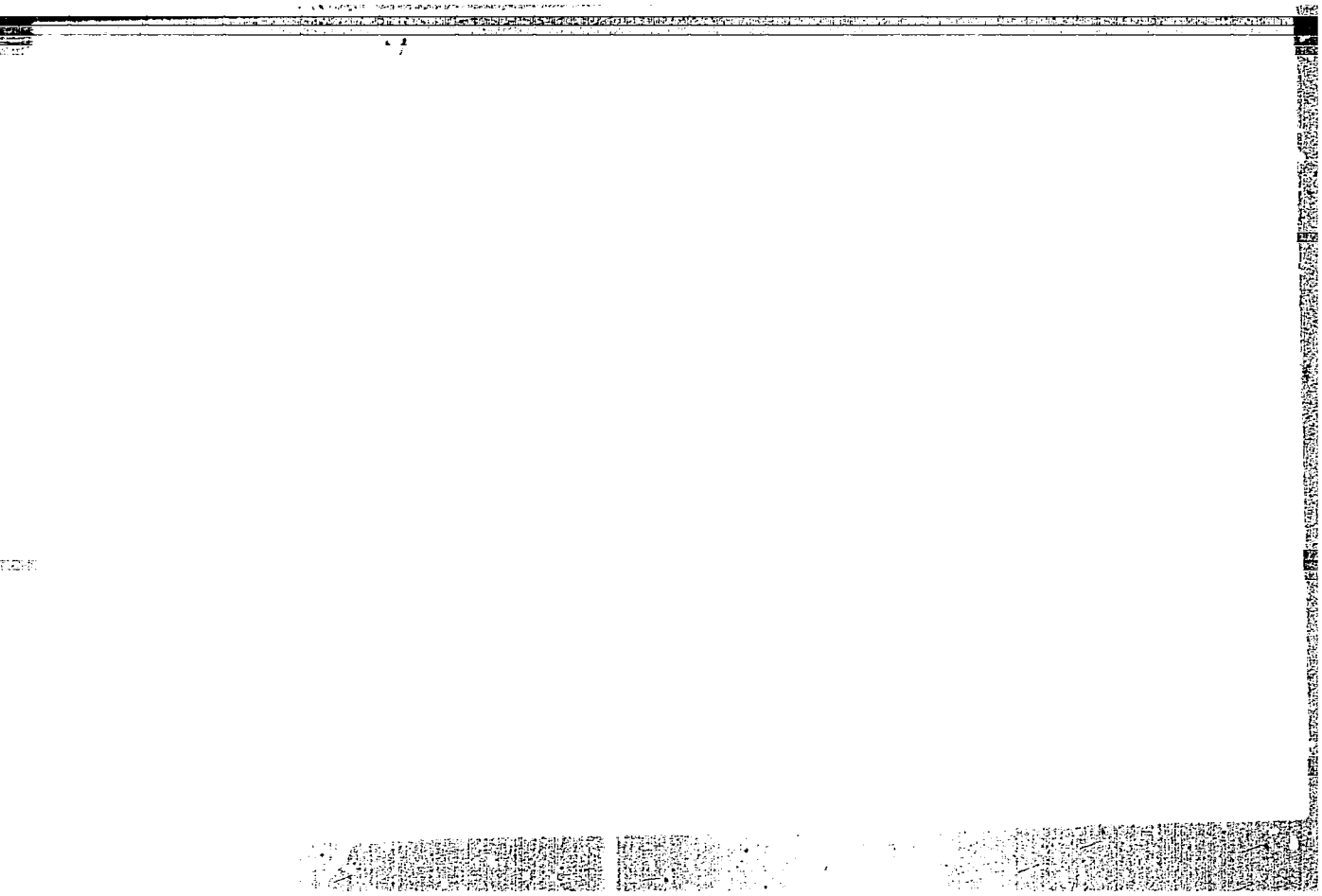
Assumes that the peroxide H_2O_4 exists in aq solns of H_2O_2, because (1) reaction kinetics show that the number of active centers producing decomp of H_2O_2 (HO_2 radicals that combine to form H_2O_4) is undiminished after chilling and reheating of the soln; (2) the amt of oxygen evolved is less than that which corresponds to the amt of hydrogen

229T21

peroxide decomposed; (3) this discrepancy becomes smaller when the soln has been aged for 1 mo at room temp; (4) evolution of oxygen is delayed after acidulation of CaO_4 with dil acid.

229T21

KRUGLYAKOVA, K. Ye.



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826720006-0"

AUTHORS: Kruglyakova, K. Ye., and Emanuel', N. M. 62-1-2/21

TITLE: Kinetic Characteristics of the Reaction of Propane Oxidation with Oxygen with Chlorine Admixtures in Quartz Crystal Vessels (Kineticheskiye kharakteristiki reaktsii okisleniya propana kislorodom s dobavkami khlora v kvartsevykh sosudakh)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1957, No. 1, pp. 18-28 (U.S.S.R.)

ABSTRACT: Investigations were conducted to determine the effect of chlorine admixtures in oxygen used for the oxidation of propane at various atmospheric pressures and temperatures ranging from 250 to 355°. It was found that small additions of Cl accelerate the propane oxidation process and increase the yield of oxygen-containing compounds. An increase in temperature from 250 to 355° is followed by a noticeable increase in the amount of peroxides in the oxidation products and the time needed for maximum concentration of the peroxides

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Kinetic Characteristics of the Reaction of Propane Oxidation with Oxygen with Chlorine Admixtures in Quartz Crystal Vessels

decreases. The introduction of larger Cl-additions was found to be impractical because it does not increase the yield of valuable oxygenous products and the deep-burning processes are stimulated. The total amount of carbonyl compounds was determined by the ordinary hydroxylamine method and it is shown that the error in determining the carbonyl compounds, due to the presence of peroxides which also react with the hydrochloride of the hydroxylamine, was no higher than 3 - 5% of their total content. The content of acetaldehyde, formaldehyde, organic acids and peroxides reaches its maximum within 1 min. The peroxide, being an intermediate molecular product, is being slowly consumed, whereas the acetaldehyde, formaldehyde and organic acids remain unchanged during the continuing oxidation process. The gaseous reaction products include: CO_2, Co, and unsaturated hydrocarbons. The nature of the peroxides forming during Cl- catalyzed oxidation of propane is described as a mixture of hydrogen peroxide of isopropyl and hydrogen peroxide.

Card 2/3 Graphs, drawing. There are 9 references, of which 7 are Slavic.

62-1-2/21

Kinetic Characteristics of the Reaction of Propane Oxidation with Oxygen with Chlorine Admixtures in Quartz Crystal Vessels

ASSOCIATION: Academy of Sciences USSR, Institute of Chemical Physics

PRESENTED BY:

SUBMITTED: June 8, 1956

AVAILABLE: Library of Congress

Card 3/3

5(4)

AUTHORS: Kruglyakova, K. Ye., Emanuel', N. M. SOV/62-59-3-6/37

TITLE: Some Particular Features in the Behavior of Intermediate Molecular Substances During Propane Oxidation (Osobennosti povedeniya molekulyarnykh promezhutochnykh veshchestv pri okislenii propana)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 3, pp 417-424 (USSR)

ABSTRACT: In the present paper the attempt was made to explain the role of some oxidation products - acetaldehyde, methyl alcohol, acetic acid - during the development of the reaction by kinetic methods. Besides, the problem of the nature of the maximum yield of one of these products (acetaldehyde) was experimentally investigated. In figure 1 the kinetic curves of the formation of intermediate products are presented. Under given experimental conditions it could be seen that propane is consumed during the formation of acetaldehyde, formaldehyde, and methyl alcohol in practically equal quantities. The effect exerted by acetaldehyde additions (1.78, 4.3, 5.5 %) on the formation kinetics of the intermediate products is given in figure 2. It was proved that these additions increase the

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oxidation rate of propane, whereby acetaldehyde, formaldehyde, and apparently methyl alcohol are formed. The maximum concentrations of the oxidation products remain the same as in experiments without additions. The addition of acetic acid (0.28 %) and methyl alcohol (2.7 %) does not affect their yield (Table). By means of tagged atoms it was proved that the maximum concentration of acetaldehyde represents a special case of the dynamic equilibrium. Apparently in the moment of the maximum concentration both the formation and consumption of this product are retarded. This might be due to an interaction of the intermediate products with the radicals of the chain, wherein less active centers are formed which guarantee the retarding effect. The lacking activity in dimedone derivatives of formaldehyde confirms the assumption that the latter is not formed from acetaldehyde but independently of it. The value of the specific activity of carbon monoxide $\alpha = 125$ impulses per minute . mg and CO_2 (132 impulses per minute . mg) indicates that CO and CO_2 are not only formed from

Some Particular Features in the Behavior of Inter- SOV/62-59-3-6/37
mediate Molecular Substances During Propane Oxidation

acetaldehyde but also in another way. There are 4 figures, 1 table, and 18 Soviet references.

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

SUBMITTED: May 30, 1957

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SOV/62-59-6-8/36

5(4)
AUTHORS: Kruglyakova, K. Ye., Emanuel', N. M.

TITLE: Kinetics of the Oxidation of Propane Induced by Chlorine in Packed Vessels at Different S/V (Kinetika initsiirovannogo khlorom okisleniya propana v sosudakh s nasadkoy pri raznykh S/V)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 6, pp 1005 - 1010 (USSR)

ABSTRACT: By way of introduction the different possibilities of observing the chain reaction which occurs with the process mentioned in the title are dealt with in brief (Refs 1-17). It could be observed that a considerable influence is exercised upon the process by the walls of the vessel, that is to say, by their shape and the material they are made of. For the investigation reported on in the present paper a vessel was used made of sodium glass which was equipped with an insert consisting of glass balls of the same type but with different diameters (5,3,1.7 mm). Oxidation was investigated with a mixture of $C_3H_8:O_2$=1:1 at a temperature of 346°, at first in a vessel without an insert.(Curves of the reaction kinetics in figure 1).

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Kinetics of the Oxidation of Propane Induced by Chlorine in Packed Vessels at Different S/V SOV/62-59-6-8/36

In this case already no agreement with the data given in reference 18 could be found. (These data were obtained by using a quartz vessel for the reaction). When using the ball shaped inserts the reaction was considerably accelerated (mostly if the balls had a diameter of 1.7 mm), but on the other hand the yield in aldehydes decreased. It is because of this acceleration that the reaction may also be carried out in the presence of chlorine without inflammation of the mixture (Fig 2). In this case the chlorine (0.5%) despite of its accelerating the process also secures a high yield in aldehydes. The kinetic curves which all (with, and without addition of chlorine that only influences the yield in aldehydes) exhibit an S-shape may easily be represented by the autocatalytic function of the first order, if only not the initial but the final concentration of the product is taken as standard for the reaction intensity. Thus the reaction is self-accelerating and the insert only influences the ramification of the chains as with this ball shaped insert a reaction surface is formed which takes part in the process of ramification. The peroxide which otherwise

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as intermediate product disturbs the reaction may without any difficulties be decomposed on the burning surface. There are 8 figures and 18 references, 13 of which are Soviet.

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

SUBMITTED: August 23, 1957

5 (2), 5 (4)

AUTHORS: Kruglyakova, K. Ye., Emanuel', N. M. SOV/62-59-7-9/38

TITLE: Activation of the Container Surface by the Reacting Mixture $C_3H_8 + O_2$ in the Presence of Chlorine (Aktivatsiya poverkhnosti sosuda reagiruyushchey smeys'yu $C_3H_8 + O_2$ v prisutstvii khlora)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1959, Nr 7, pp 1211-1215 (USSR)

ABSTRACT: By way of an introduction there is a brief reference to own papers and to papers of Sergeyev and Shtern (Ref 2), Kalinenko and Voyevodskiy (Ref 3) being in connection with the problem under review. This paper reports on the discovered activation effect as it is called in the title. The existence of the effect was concluded from the initiating effect of the surface of the container on the oxidation in the absence of chlorine following experiments with chloroinitiated oxidation of propane.

The apparatus on which the experiments were carried out is described in paper, reference 5. The reaction kinetic curves with and without the addition of chlorine at 335° are plotted in figure 1. The chlorine influences strongly the yield of acetaldehyde. This influence of the chlorine could only be

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noticed in quartz containers with a glass splinter filling. In containers made of other material also the formation of formaldehyde was influenced. There are accordingly two ways independent of one another to produce both aldehydes. A production scheme of both aldehydes is given (for the formaldehyde according to the scheme of Semenov and Shtern (Refs 4, 6)). Furthermore, the yield of formaldehyde and acetaldehyde is investigated in dependence on the reaction temperature and addition of chlorine. In figure 3 also the secondary effect of chlorine is to be seen (decrease of the yield of aldehydes at high temperatures). There are 4 figures and 6 Soviet references.

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

SUBMITTED: October 24, 1957

82689

S/062/60/000/008/002/012
B004/B054

5.4300

AUTHORS: Kruglyakova, K. Ye. and Emanuel', N. M.

TITLE: Macroscopic Stages in the Reaction of Propane Oxidation in the Presence of Chlorine

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1960, No. 8, pp. 1342-1347

TEXT: Various investigations (Refs. 1-4), as well as papers by V. I. Urizko and M. V. Polyakov (Ref. 5), N. S. Yenikolopov and T. S. Konareva (Ref. 6), studied the kinetics of exothermic chain reactions by measuring the development of heat in the reaction mixture. The existence of two time-separated macroscopic stages was observed. The authors applied this method to study the course of propane oxidation. Fig. 1 shows the curves of heat development and pressure variation for the stoichiometric mixture $C_3H_8 + O_2$ at 340 and 358°C and 244 torr. The heat development shows a maximum. The linear course of the function $\log \Delta p = f(t)$ corresponds to Semenov's law on the initial stage of branched chain reactions. With addition of 2% by volume of chlorine, the character of heat development changes. Fig. 2

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Macroscopic Stages in the Reaction of Propane Oxidation in the Presence of Chlorine

S/062/60/000/008/002/012
B004/B054

shows the course of reaction at 327°C. There are two maxima, the first after 25 sec, the second after 600 sec. Figs. 3-5 show the course of reaction with different chlorine additions (3.5%, 8%) and temperatures (340, 358, 372°C). The existence of two maxima is explained by the course of two degenerate branched chain reactions. The authors give the following reaction diagram: $B + R \rightarrow C + R$ (1); $C \rightarrow 2R$ (2); $A + R' \rightarrow D + Q'$ (3); $D + C \rightarrow 2R'$ (4); $R \rightarrow$ loss (5); $R' \rightarrow$ loss (6), where B is the initiating admixture, A the initial substance, R and C the free radical and the end product of the first reaction, R' and D the free radical and the end product of the second reaction. The linear breaking-off of the reactions (5) and (6) is caused by the loss of radicals on the walls of the vessel. The authors write down the differential equations for the reaction rates, substitute the experimental data for concentration, as well as the constants, and obtain the kinetic curves Fig. 6 for B, C, and D by means of numerical integration. The equation $\Delta T_m = k(Q_1 W_1 + Q_2 W_2)$ is written down for the heat development, where Q_1, Q_2 denote the thermal effect of the first and second stage, respectively, $W_1 = -dB/dt$; $W_2 = dD/dt$; $k = R^2/4\lambda$ (R = radius of the reaction vessel, λ = mean heat conductivity of the reacting gases). Fig. 7 shows

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Macroscopic Stages in the Reaction of Propane Oxidation in the Presence of Chlorine

S/062/60/000/008/002/012
B004/B054

that this equation exhibits courses of reaction analogous to the experiments, dependent on the ratio of c_1/c_2. The authors thank D. G. Knorre for the discussion. There are 7 figures and 7 Soviet references.

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

SUBMITTED: January 28, 1959

Card 3/3

KRUGLYAKOVA, K. YE, and NIKOLAYVA, N. V. (USSR)

"Inhibition of the Radiation Depolymerization of DNA by Inhibitors of Radical-Chain Processes."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

KRUGLYAKOVA, K. Ye. Cand Chem Sci -- "Kinetics and Chemism of a chlorine-initiated reaction of the oxidation of propane." Mos, 1961 (Mos Order of Lenin and Order of Labor Red Banner State Univ im M. V. Lomonosov. Chem Faculty). (KL, 4-61, 187)

34759

S/020/62/142/003/027/027
B144/B101

27,1220

AUTHORS: Nikolayeva, N. V., Kruglyakova, K. Ya., Kiselev, N. A., Baynshteyn, B. K., and Emanuel', N. M., Corresponding Member AS USSR

TITLE: Reduction of radiation damage of DNA molecules in the presence of propyl gallate (PG)

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 3, 1962, 713-715

TEXT: The present study concerns the protective effect of PG on 0.007% DNA solutions which were prepared from the spleen of rats and diluted in 0.1 M ammonium acetate, pH 6.2, to 0.0015%. The intrinsic viscosity $[\eta]$ of 25 dl/g corresponds to a molecular weight of $\sim 3 \cdot 10^6$, the coefficient of molar extinction $\varepsilon_{(r)260\ m\mu} = 6450$. Doses of 66,000, 168,000, and 336,000 r were applied with a БФ-2 (BF-2) short focus x-ray test apparatus (8 ma, 75 kv, Mo anode, without filter), dose intensity 135,000 r/min. One-stage carbon replicas were examined in an IEM-5G electron microscope, accelerating tension 80 kv, magnification 18-25,000 times. The damage

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percentage increases from 50 through 75 to 100% after irradiation doses in the above-mentioned sequence. In all cases, addition of PG guarantees a 40 - 50% protection of DNA molecules (Fig. 1). The size of the DNA molecule fragments is greater with PG addition than without. Further studies are needed to decide whether these fragments are incompletely decomposed molecules of the initial DNA or a result of cross-linking facilitated by PG. PG addition after irradiation and testing of DNA and PG as to their biological activities may solve this problem. There are 2 figures and 19 references: 8 Soviet and 11 non-Soviet. The four most recent references to English-language publications read as follows: A. R. Peacocke, B. N. Preston, Proc. Roy. Soc., Ser. B, 153, No. 950, 90 (1960); R. Latarjet, H. Ephrussi-Taylor, N. Rebeyrotte, Radiation Res., Suppl. 1, 417 (1959); F. M. Defilippes, W. R. Guild, Radiation Res., 11, 38, (1959); P. Alexander, K. A. Stacey, IV Internat. Congress of Biochemistry, Vienna, 1 - 6 Sept., Symp. IX, 1958.

SUBMITTED: September 30, 1961

Card 2/3

Fig. 1. Change in intrinsic viscosity of DNA solutions before and after x-ray irradiation.
Legend: (1) control (before irradiation); (2) irradiation with PG addition; (3) irradiation without PG; (a) hours; (b) dl/g.

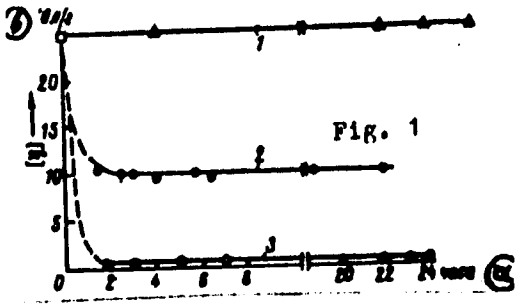

Fig. 1

Card 3/3

LIPSITS, D.V.; KRUGLYAKOVA, K.Ye.; POSTNIKOVA, M.S.; EMANUEL', N.M.

Suppression of the development of vegetable tumors (potato canker) by inhibitors of radical processes. Dokl.AN SSSR 145 no.1:212-214 Jl '62. (MIRA 15:7)

1. Vsesoyuznaya nauchno-issledovatel'skaya stantsiya po raku kartofelya Vsesoyuznogo instituta zashchity rasteniy i Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Emanuel').

(Potato wart) (Gallic acid)

ACCESSION NR: AP3000120 S/0062/63/000/005/0789/0793

AUTHOR: Sholina, S. I.; Bogolyubskiy, V. A.; Kruglyakova, K. Ye.

TITLE: Antioxidative effectiveness of some hydroquinone derivatives

SOURCE: AN SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 5, 1963, 789—793

TOPIC TAGS: antioxidants, hydroquinone derivatives, Mannich reaction

ABSTRACT: The authors describe the synthesis of the following compounds by aminomethylation using the Mannich reaction: (1) 2,5-bis-(dimethylaminomethyl) hydroquinone; (2) 2,3-bis-(dimethylaminomethyl)-5-isopropylhydroquinone; (3) 2,5-bis--(diethylaminomethyl)hydroquinone; and (4) 2-diethylaminomethyl-4-methoxyphenol. Compounds (1)-(3) proved to be more effective antioxidants than hydroquinone and propylgallate when tested under standard conditions with methyl oleate at 90C and an O sub 2 pressure of 300 mg Hg for 20 minutes. Substitution of mixed alkyl and aminomethyl groups (compound 1) increased the antioxidative effectiveness to 5 times that of hydroquinone. Substitution of a secondary aminomethyl group in the O-position in the monoethyl ether of hydroquinone (compound 4) had no effect on the antioxidative properties. "The authors express their gratitude to N. M. Emanuel' for his continued interest in their work." Orig. art. has: 2 figures, 1 formula, and 1 table.

Card 1/2

ACCESSION NR: AP3000120

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

SUBMITTED: 22Jun62	DATE ACQ: 12 Jun63	ENCL: 00
SUB CODE: CH	NO REF SOV: 003	OTHER: 004

Card 2/2

ACCESSION NR: AP3000127 S/0062/63/000/005/0890/0893

AUTHOR: Smirnov, L. D.; Sholina, S. I.; Kruglyakova, K. Ye.; Dyumayev, K. M.

TITLE: Space restricted 3-oxypyridines. Report 2. Synthesis and the study of the antioxidizing properties of some 2,6-dialkyl-3-oxypyridines and 2,6-dialkyl-4-(dialkylamino)methyl-3-oxypyridines

SOURCE: AN SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 5, 1963, 890-893

TOPIC TAGS: synthesis of 2-alkyl-3-oxy-6-methylpyridines, antioxidants, 2-ethyl-6-methyl-3-oxypyridine

ABSTRACT: The present work is devoted to the synthesis and study of the properties of antioxidants 2,6-dialkyl-3-oxypyridines and 2,6-dialkyl-4-(dialkylamino)methyl-3-oxypyridines, whose structures are closely related to vitamin B6. The synthesis of a number of 2-alkyl-3-oxy-6-methylpyridines by reaction of 2-acyl-5-methylfurans with ammonia has been realized. The antioxidative effect of some 2,6-dialkyl-4-dialkylaminomethyl-3-oxypyridines has been studied in the oxidation reaction of methyloleate. The most effective antioxidant was found to be 2-ethyl-6-methyl-3-oxypyridine. The introduction of dimethylaminomethyl, methylpiperidine and methylmorpholine groups into the 4th position of 2,6-dialkyl-3-oxypyridines practically

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ACCESSION NR: AP3000127

eliminates the antioxidative properties of these materials. "The authors express their gratitude to N. M. Emanuel' for his continued interest in this work." Orig. art. has: 1 table, 1 graph, and 1 equation.

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

SUBMITTED: 29Jun62 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: CH NO REF SOV: 002 OTHER: 010

Card 2/2

L 12717-63 EWP(j)/EPF(c)/EWT(l)/EWT(m)/BDS AFFTC/ASD Pc-4/Pr-4 WW/RM/JFW
ACCESSION NR: AP3002301 S/0062/63/000/006/1143/1143

AUTHOR: Emanuel', N. M.; Kruglyakova, K. Ye.; Vichutinskiy, A. A.; Vasil'yev, R. F. 71

TITLE: Chemiluminescence of solutions of desoxyribonucleic acid (DRNA) after irradiation with x-rays

SOURCE: AN SSSR, Izv. Otdeleniye khimicheskikh nauk, no. 6, 1963, 1143

TOPIC TAGS: chemiluminescence, desoxyribonucleic acid (DRNA), x-rays, irradiation, peroxides, recombination of radicals

ABSTRACT: A low intensity chemiluminescence has been discovered following irradiation of DRNA solution. The intensity falls exponentially with time. It was shown chemically that the peroxides arising from irradiation of DRNA decompose according to the same law at approximately the same rate. The chemiluminescence may arise from recombination of radicals formed from peroxides produced in the irradiation.

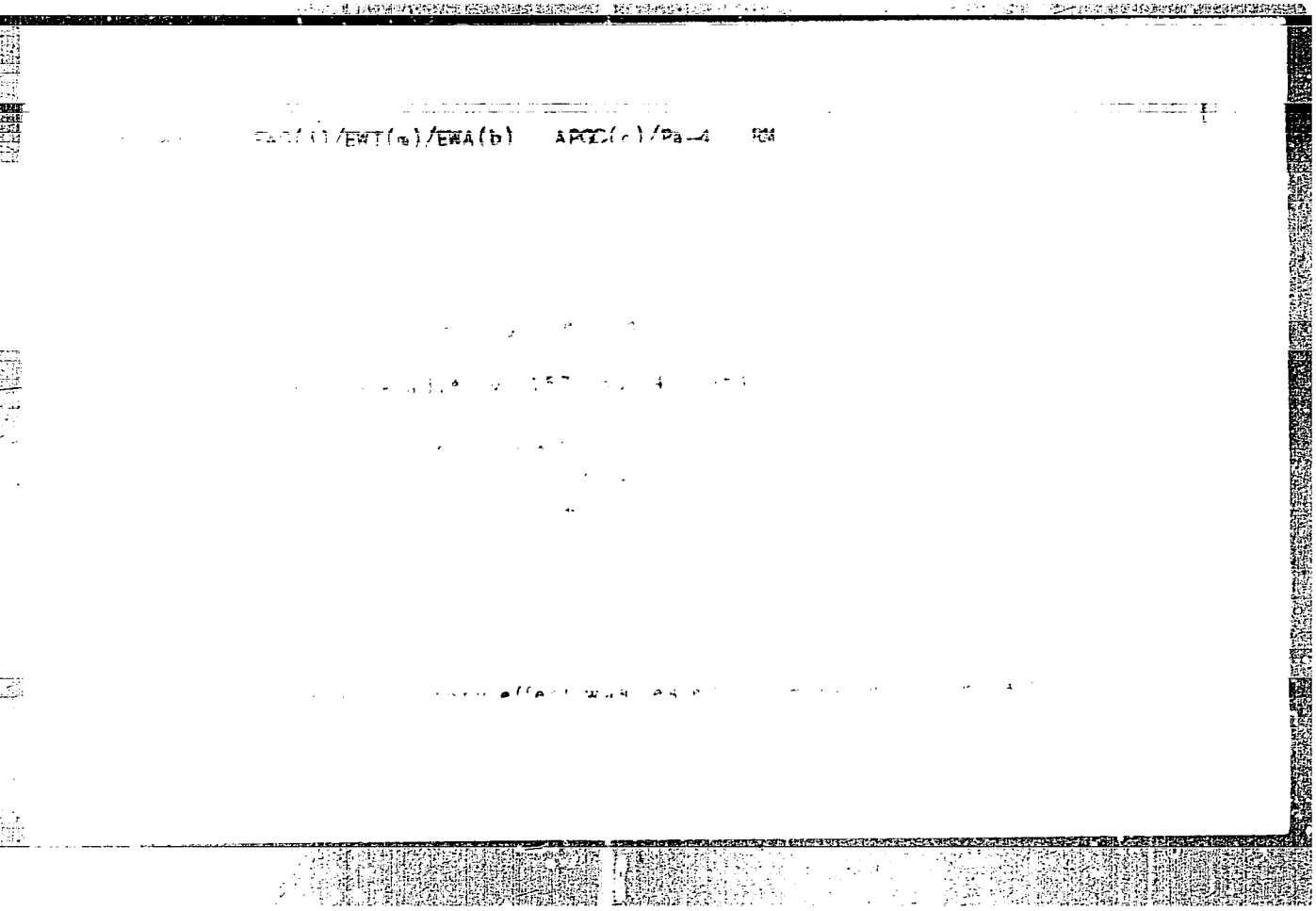
ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

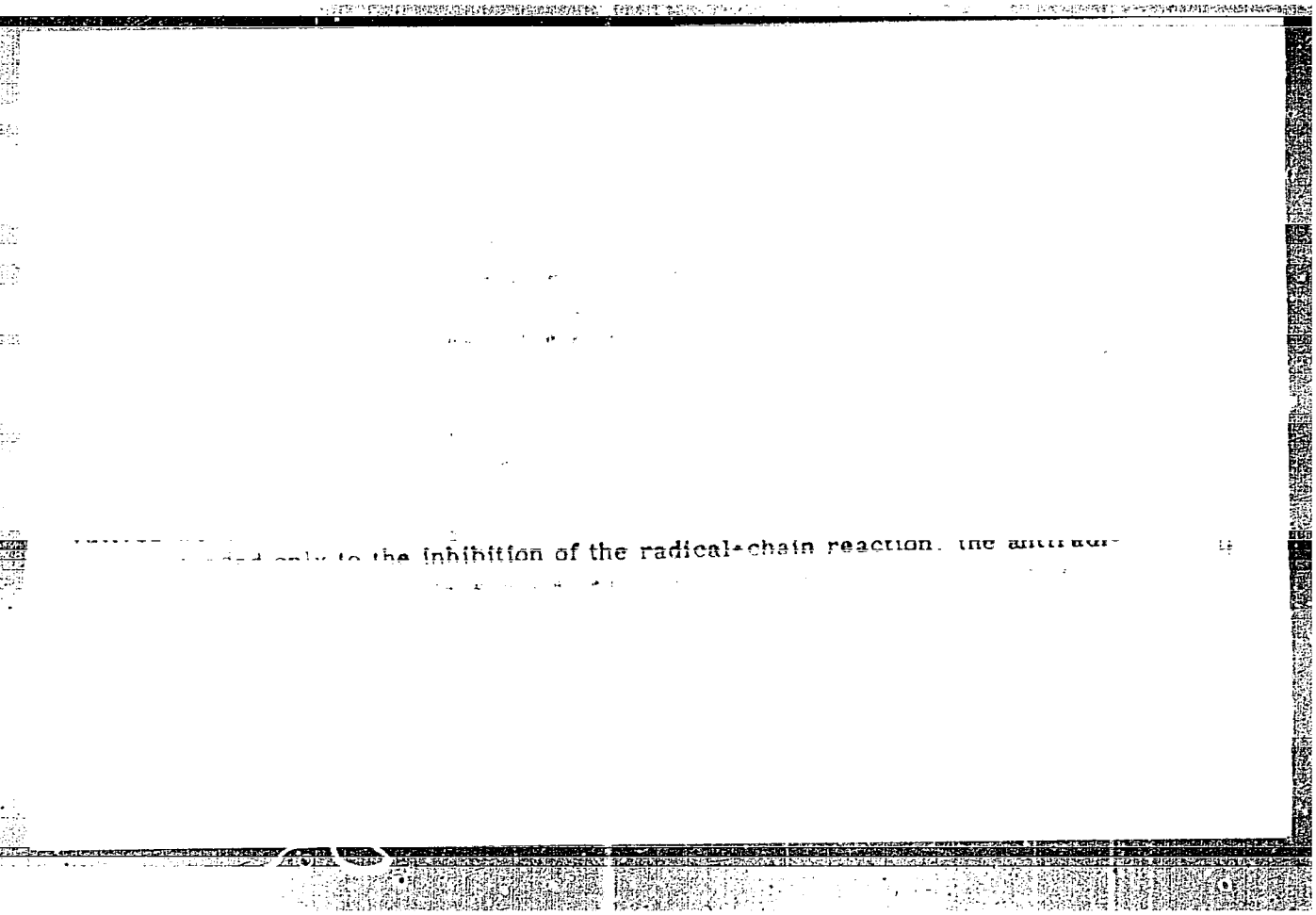
SUBMITTED: 25 Feb 63 DATE ACQ: 16 Jul 63 ENCL: 00
SUB CODE : 00 NO REF SOV: 004 OTHER: 000
Card 1/1

SAMOKHVALOV, G.I.; BUDAGYANTS, M.I.; SHAKHOVA, M.K.: SHOLINA, S.I.; KRUGLYAKOVA, K.Ye.; NIKOLAYEV, R.P.; ROMANOVA, A.F.

7-Alkyl derivatives of quercetin and their antioxidizing effectiveness. Izv. AN SSSR. Ser.khim. no.9:1617-1621 S '63. (MIRA 16:9)

1. Institut khimicheskoy fiziki AN SSSR i Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Quercetin) (Antioxidants)





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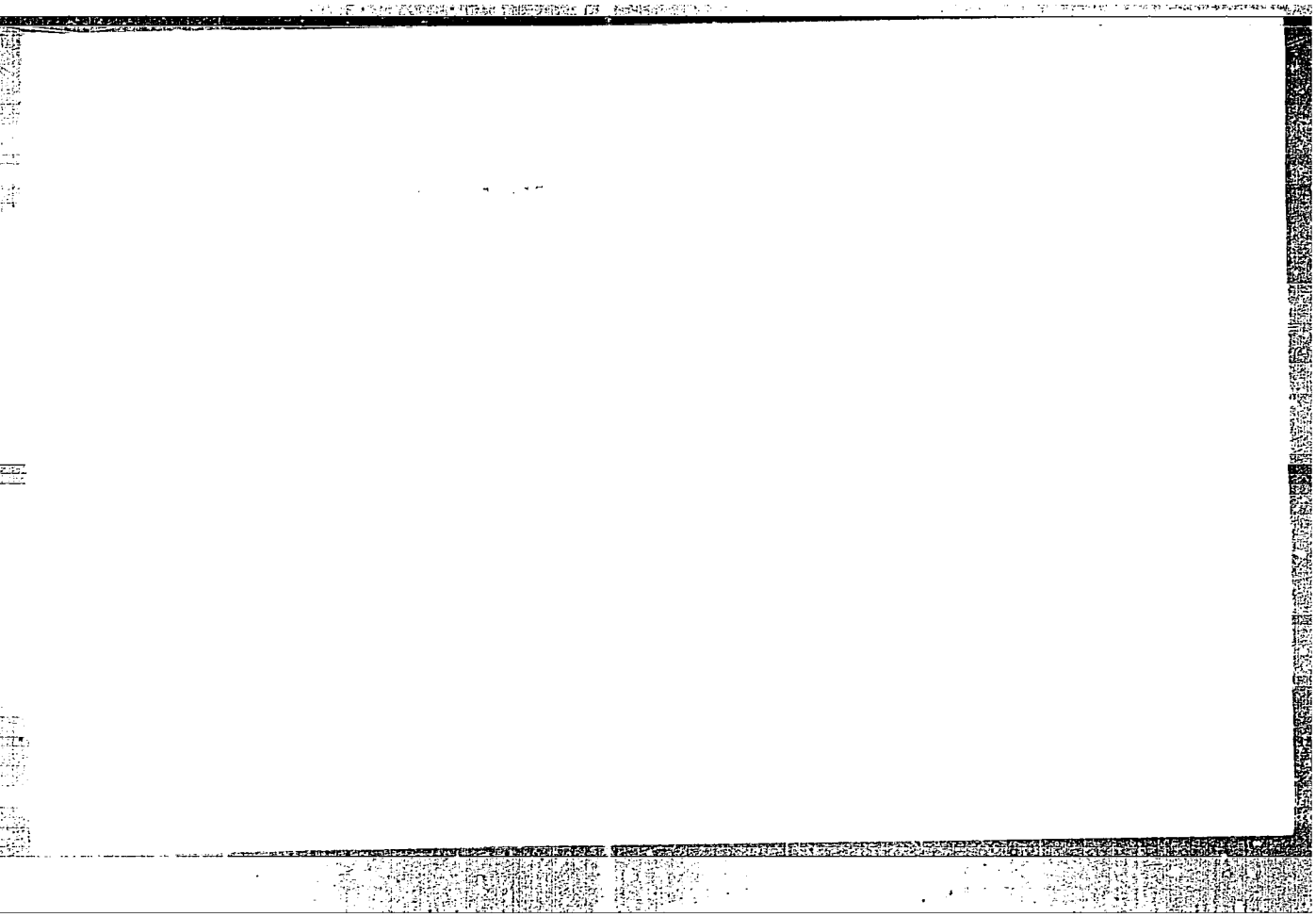

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826720006-0"

ZHIZHINA, G.P.; ZYBINA, D.L.; KRUGLYAKOVA, K.Ye.; EMANUEL', N.M.

Kinetic characteristics of the degradation of peroxide compounds in irradiated DNA solutions. Dokl. AN SSSR 158 no.4:935-938 O '64. (MIRA 17:11)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Emanuel').

EMANUEL', N.M.; KRUGLYAKOVA, K.Ye.; ZHIZHINA, G.P.; VICHUTINSKIY, A.A.; VASIL'YEV, R.F.

Chemiluminescence of DNA solutions following X-ray irradiation. Trudy MOIP. Otd. biol. 21:119-121 '65. (MIRA 18:6)

KRUGLYAKOVA, K.Ye.; ULANOV, B.P.; ZYBINA, D.L.; EMANUEL', N.M.

Kinetic characteristics of the effect of chemical mutagens (ethyleneimine derivatives) on DNA. Dokl. AN SSSR 161 no.3:718-720 Mr '65. (MIRA 18:3)

1. Chlen-korrespondent AN SSSR (for Emanuel').

ZHIZHINA, G.P.; KRUGLYAKOVA, K.Ye.; EMANUEL', N.M.

Nature of superweak glow of irradiated solutions of deoxyribonucleic acid. Dokl. AN SSSR 163 no.4:931-934 Ag '65. (MIRA 18:8)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Emanuel').

ZHIL'TSOVA, V.M.; KRUGLYAKOVA, K.Ye.; ULANOV, B.P.; GINDIN, L.G.

Kinetics of DNA denaturation following ultraviolet irradiation. Dokl. AN SSSR 164 no.1:198-200 S '65. (MIRA 18:9)

1. Vsesoyuznyy zaochnyy politekhnicheskiy institut i Institut khimicheskoy fiziki AN SSSR. Submitted March 25, 1965.

SAPRIN, A.N.; KLOCHKO, E.V.; KRUGLYAKOVA, K.Ye.; CHIBRIKIN, V.M.; EMANUEL', N.M.

Effect of the inhibitors of radical reactions on the kinetics of the change in free radical content in the organs of mice in experimental leukemia. Dokl. AN SSSR 166 no.3:746-748 Ja '66. (MIRA 19:1)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Emanuel'). Submitted August 27, 1965.

L 31196-66 EWP(j)/EWT(m) RM

ACC NR: AP6022567 SOURCE CODE: UR/0216/66/000/002/0183/0196

AUTHOR: Emanuel', N. M.; Burlakova, Ye. B.; Kruglyakova, K. Ye.; Sapezhinskiy, I. I.

ORG: Institute of Physical Chemistry, AN SSSR, Moscow (Institut khimicheskoy fiziki AN SSSR)

TITLE: Studies on free-radical reactions following irradiation of model systems and the role of radicals in radiation injury

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 2, 1966, 183-196

TOPIC TAGS: free radical, irradiation effect, radiation injury, recombination reaction, protein, free radical stabilization, electron spin resonance, exchange reaction, DNA

ABSTRACT: Oxidative recombination of the radicals of irradiated proteins is a two-stage process: peroxide radical formation and disproportionation (during which chemoluminescence arises). Analysis of electron spin resonance and oxygen absorption by irradiated proteins reveals that the reaction proceeds through a transfer of free valence. The authors concluded from the results of the electron spin resonance studies and chemoluminescence that an exchange reaction is possible between the radicals of irradiated proteins and the inhibitors of free-radical reactions.

Free-radical reactions play an important part in radiation-induced DNA degradation. Study of the action of various inhibitors showed that gallic acid, phenylethylamine, and oxypyridine derivatives markedly weaken the effect of irradiation. Experiments on animals indicated that the degree of protection is directly related to the antiradical activity of the inhibitors used in free-radical reactions. Orig. art. has: 18 figures and 2 tables. [JPRS]

SUB CODE: 06, 20, 07 / SUBM DATE: 11Dec65 / ORIG REF: 015 / OTH REF: 001

UDC: 577.391

Card 1/1 CC

ACC NR: AP6030025 SOURCE CODE: UR/0020/66/169/005/1203/1205

AUTHOR: Nikolayeva, N. V.; Semenova, L. P.; Kruglyakova, K. Ye.

ORG: none

TITLE: Fractionation of irradiated and protected DNA with propylgallate on a cellulose anionexchange column

SOURCE: AN SSSR. Doklady, v. 169, no. 5, 1966, 1203-1205

TOPIC TAGS: DNA, DNA fraction, column chromatography , radiation damage, ion exchange chromatography

ABSTRACT: It is known that propylgallate, an inhibitor of free radical reaction, protects DNA from radiation damage. DNA extracts from living cells are heterogeneous in molecular weight and ion exchange chromatography with propylgallate has been found an effective means of separating DNA fractions and distinguishing native and irradiated DNAs. The ion exchange chromatography system is described and some experimental results presented. [WA-50; CBE No. 11]

SUB CODE: 06/ SUBM DATE: 29May65/ ORIG REF: 003/ OTH REF: 011/

Card 1/1 UDC: 577.1:547.963.32

AUTHORS: Breydo, I.I.; Kruglyakova, L.V. SOV-77-3-5-7/21

TITLE: The Relation of the Resolution of Small Details in the Multiple Copying to the Nature of the Operative Light Beam (Zavisimost' razresheniya melkikh detaley pri mnogokratnom kopirovanii ot kharaktera deystvuyushchego svetovogo puchka)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1958, Vol 3, Nr 5, pp 359-362 (USSR)

ABSTRACT: The object of the study was to determine how the resolution of small details at various stages of the duplicating process was effected by replacing the white light source by ultra-violet and using a parallel copying beam instead of a diffused one. For the experiment, double-positive A, double-negative A and positive MZ photographic materials were used. The resolution of the various materials was found by the contact method, projecting a special line pattern onto them and later measuring the degree of reproduction. This was carried out in both white and ultra-violet light. The copying process went through five stages, yielding 2 intermediate positives, two duplicates and one final positive. The resolution of the pattern lines was determined in each case. It was found that the resolution of small details falls sharply

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The Relation of the Resolution of Small Details in the Multiple Copying to the Nature of the Operative Light Beam

during copying, particularly in the first stages. The resolution can be considerably improved by ultra-violet light instead of white and a parallel copying beam instead of a diffuse form. Further experiments showed that altering the development conditions had little effect on resolution and that the use of an ultra-violet parallel copying beam is a more effective means of improving the resolution of small details in multiple-copying than the use of special films with a high resolving power. There are 3 tables, 1 graph and 2 Soviet references.

ASSOCIATION: Leningradskiy institut kinoinzhenerov (Leningrad Institute of **Motion Picture Engineers**)

SUBMITTED: January 12, 1957

1. Photographic films--Processing 2. Photographic films--Test results

Kruglyakova, M.D.

KRASTOSHEVSKIY, L.S.; DANCHICH, V.V.; AVDIYENKO, T.G.; ARKHANGEL'SKIY, A.F.; GAK, A.M.; YEPIFANTSEV, Yu.P.; ZELINSKIY, V.M.; IVANOV, P.S.; IVASHCHENKO, P.R.; KALININA, M.D.; KRAVCHENKO, A.G.; KOTLYAROVA, A.V.; KRUGLYAKOVA, M.D.; LEVIKOV, I.I.; LIBKIND, R.I.; NIKOLAYEVA, N.A.; NAUMENKO, V.F.; PRESHMAN, I.B.; PRISYAZHNIKOV, V.S.; POBEDINSKAYA, L.P.; POKALYUKOV, S.N.; POPOV, A.A.; SOLOMENTSEV, M.N.; TARASOV, I.V.; FILONENKO, A.S.; SHISHOV, Ye.L.; SHRAYMAN, L.I.; YAKUSHIN, N.P.; ZVORYKINA, L.N., red. izd-va; LOMILINA, L.N., tekhn.red.

[Horizontal mining in foreign countries] Provedenie gorizontal'nykh vyrabotok za rubezhom. Moskva, Ugletekhizdat, 1958. 342 p. (MIRA 12:4)

1. Kharkov. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva.
(Mining engineering)

DUBININ, N.N., kand.tekhn.nauk; DOROSHENKO, G.N., kand.tekhn.nauk; KOTLYAROVA, A.V., inzh.; KRUGLYAKOVA, M.D., inzh.; VOLOVICH, CHEKHOVSKAYA, T.P., red.izd-va; SHKLYAR, S.Ya., tekhn.red.

[Shaft sinking in the U.S.S.R. and in foreign countries] Opyt prokhodki stvolov shakht v SSSR i za rubezhom. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 257 p. (MIRA 13:11)

1. Kharkov. Ukrainskiy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii shakhtnogo stroitel'stva.
(Shaft sinking)

REZNIK, I.D.; VOSKRESENSKIY, P.I.; KRUGLYAKOVA, M.S.

Moisture of flue gases during the agglomeration of oxidized nickel ores. TSvet. met. 31 no. 7:51-55 Jl '58. (MIRA 11:8)

1. Gintsvetmet.

(Nickel--Metallurgy)

REZNIK, I.D., KRUGLYAKOVA, M.S.

Sulfatization of oxides of cobalt, nickel, copper and lead in silicate melts. Sbor. nauch. trud. GINTSVETMET no.15:138-163 '59. (MIRA 14:4)

(Nonferrous metals--Metallurgy)

REZNIK, I.D.; KRUGLYAKOVA, M.S.

Laboratory investigation of the behavior of gypsum in the presence of slag as applicable to shaft furnace smelting of oxidized nickel ores. TSvet. met. 33 no.6:83-84 Je '60. (MIRA 14:4)
(Nickel--Metallurgy)

REZNIK, I.D.; KRUGLYAKOVA, M.S.

Mechanism of sulfuration in the shaft smelting of oxidized nickel ores with calcium sulfate. Zhur. prikl. khim. 33 no.11:2449-2458 N '60. (MIRA 14:4)
(Sulfuration) (Nickel--Metallurgy)

REZNIK, I.D.; KRUGLYAKOVA, M.S.

Laboratory investigation of gypsum behavior in the presence of slag as used in the shaft furnace smelting of oxidized nickel ores. Sbor. nauch. trud. Gintsvetmeta no.18:275-299 '61 (MIRA 16:7)

(Nickel—Metallurgy) (Gypsum)

REZNIK, I.D.; KRUGLYAKOVA, M.S.

Sulfuration of iron silicates and magnetite by sulfur vapor and sulfur dioxide. Sbor. nauch. trud. Gintsvetmeta no.18: 300-306 '61. (MIRA 16:7)

(Sulfuration)
(Nickel industry—By-products)

S/136/62/000/006/004/005
E071/E435

AUTHORS: Reznik, I.D., Kruglyakova, M.S.

TITLE: On the cause of irregularity in the composition of matte on shaft smelting of oxidized nickel ores with gypsum

PERIODICAL: Tsvetnyye metally, no.6, 1962, 80-83

TEXT: It was found difficult to control the composition of matte on smelting oxidized nickel ores with gypsum in shaft furnaces. According to previous investigations the presence of molten slag leads to a rapid decomposition of gypsum even in a reducing atmosphere, while without slag, gypsum is fully transformed into calcium sulphide. In the present work the velocity of the interaction of calcium sulphate with metallic iron in the presence of slag (25.1% Fe, 31.9% SiO_2, 16.6% CaO, 0.1% MgO, 0.2% Al_2O_3 and < 0.1% S) in the temperature range 900 to 1000°C was investigated. The procedure consisted of heating a mixture of finely ground components in corundum crucibles in a stream of nitrogen; the SO_2 evolved was absorbed and the residue in the

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S/136/62/000/006/004/005
E071/E435

On the cause of irregularity ...

crucible analysed for sulphide and sulphate sulphur. In the absence of slag, sulphate sulphur rapidly reduced to sulphide; the presence of slag slowed down the reaction but the removal of sulphur with gas was insignificant. The proportion of metallic iron present in the mixture had a decisive influence on the transfer of sulphur into the sulphide form. In the presence of slag and an insufficient proportion of iron, up to 47% of sulphur is removed as the gas SO_2. If there was an excess of iron (in respect of equation: $CaSO_4 + 4Fe = CaS + 4FeO$) all sulphur transformed into sulphide. The following mechanism of sulphidization is postulated: gypsum mainly decomposes with the evolution of SO_2 which, together with elementary sulphur, is absorbed by iron, reduced to metallic and ferrous forms. On the basis of this mechanism a number of features of shaft smelting of oxidized nickel ores with gypsum are explained. There are 2 figures.

Card 2/2

REZNIK, I.D.; KRUGLYAKOVA, M.S.

Interaction of gypsum with metallic iron in the presence of slag as applied to shaft furnace smelting of oxidized nickel ores. Zhur.prikl.khim. 35 no.6:1237-1242 Je '62. (MIRA 15:7)
(Nickel ores) (Gypsum) (Iron)

REZNIK, I.D.; KOVALEV, D.Ya.; KUDRIN, A.N.; TUMASOV, V.F.; GRITSKOVA, V.T.; KRUGLYAKOVA, M.S.

Depletion of waste slags from shaft furnace smelting of oxidized nickel ores in electric crucibles. TSvet. met. 36 no.9:22-28 S '63. (MIRA 16:10)

ALIMOV, Aleksey Petrovich; GOL'VINSKIY, Leonid Voynovich; KRUGLYAKOVA, Mariya Dmitriyevna; SKOROBOGATYY, G.I., retsenzent; YATSENKO, V.D., retsenzent; GRABILIN, Yu.N., otv. red.

[Mechanization of auxiliary processes in the building of coal mines] Mekhanizatsiia vspomogatel'nykh protsessov v shakhtnom stroitel'stve. Moskva, Nedra, 1965. 178 p. (MIRA 18:9)

REZNIK, I.D., kand. tekhn. nauk; LYUMKIS, S.Ye.; KOVALEV, D.Ya.; TUMASOV, V.F.; KRUGLYAKOVA, M.S.; GRITSKOVA, V.T.

Periodic process of depleting waste slags from the shaft-furnace smelting of oxidized nickel ores with the help of an electric hearth. Sbor. nauch. trud. Gintsvetmeta no.23:151-163 '65. (MIRA 18:12)

Kruglyakova, P.P.

15-57-7-9454

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7, p 105 (USSR)

AUTHORS: Fridman, N. G., Kruglyakova, P. P.

TITLE: The Use of Phase Gas Analysis for Studying the Processes of Dehydration of Hydrated Minerals (Primeneniye fazovogo gazovolyumetricheskogo analiza dlya izucheniya protsessov obezvozhivaniya gidratirovannykh mineralov)

PERIODICAL: Tr. Kazansk. fil. AN SSSR, ser. khim. n., 1956, Nr 3, pp 83-87.

ABSTRACT: The authors have studied the dehydration of minerals (gypsum, hydrous borates, hydroboracite, carnallite, and polyhalite) in order to explain the kinetics of the dehydration process. They used the nonautomatic burette of Berg, 1.5 m long with a volume of 7 mm to 8 mm. Calcium hydride served as the reagent. The investigations were made at various temperatures. The maximum temperatures of dehydration, obtained from the thermal curves of Kurnakov, were taken as a basis.

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15-57-7-9454

The Use of Phase Gas Analysis for Studying (Cont.)

Subsequent determinations were carried on at lower temperatures. After 2.5 to 5 minutes, depending on the rate of dehydration, a detectable quantity of water was given off, equivalent to the volume of H obtained in the gas burette. The method permits rapid and accurate acquisition of data on the dehydration of minerals in small samples.

Card 2/2

Ye. S. Kabanova

ACC NR: AT7001042 SOURCE CODE: UR/2753/65/000/004/0123/0158

AUTHOR: Kruglyakova, V. I.

ORG: none

"Rotation Shell with Small Central Opening Under the Influence of Symmetrical and Inversely Symmetrical Load"

Leningrad, Issledovaniya po Uprugosti i Plastichnosti, No 4, 65, pp 123-158.

Abstract: A presentation of a unified method for determination of stresses near the small central opening in rotation shells under the influence of symmetrical and inversely symmetrical loads. The solution is in a form convenient for practical use. In contrast to most previous works on the subject, the method suggested has a simplification which involves symmetrical deformation only in the coefficients of the equation. In the stress and displacement expressions, the trigonometric factors are retained. Orig. art. has: 13 figures, 10 formulas, and 1 table. [JPRS: 35,995]

TOPIC TAGS: shell structure dynamics, shell deformation

SUB CODE: 20 / SUBM DATE: 14Apr64 / ORIG REF: 014 / OTH REF: 021

Card 1/1 0924 00 53

GOLOVAN, A.T., doktor tekhn.nauk, prof. (Moskva); KRUGLYANSKIY, I.M., inzh. (Moskva)

Circuits for the excitation of asynchronous variable-frequency generators. Elektrichestvo no.5:31-36 My '60. (MIRA 13:9)

(Electric generators)

L 11050-66
ACC NR: AP6004793 SOURCE CODE: UR/0105/65/000/005/0091/0093

AUTHOR: Dobromyslov, I. I.; Tverdin, L. M.; Kruglyanskiy, I. M. 42

ORG: none

TITLE: Scientific and technical seminar on semiconductor power converters and their application in modern automated industry

SOURCE: Elektrichestvo, no. 5, 1965, 91-93

TOPIC TAGS: electric engineering conference, electric power engineering, industrial automation, semiconductor device, automation equipment, rotary electric power converter

ABSTRACT: The article reports on the proceedings at the seminar held on 1-3 October 1964 at the VDNKh SSSR (Exposition of the Achievement of the National Economy USSR). Twenty-five reports were made by representatives of over ten scientific and industrial organizations in the electric power field. The opening remarks dealt with the progress and status of semiconductor techniques in power system applications and the prospects for the future. The next subject was the effect of physical phenomena accompanying various semiconductor manufacture techniques on the parameters of the circuit components (rectifiers). There followed several papers on power conversion, from one frequency to another, from single-phase to three-phase or to D.C., motor-generator systems, and rectifiers. A few papers were devoted to the application of thyristors to electric to electric drive systems for speed control of D.C. and A.C. asynchronous (induction) motors. Static converters and inverters were considered next and some

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papers were presented on various industrial applications of power conversion systems, e.g. in the chemical and metallurgical industry, in machine tool operation; and also on the application of pulse-time and pulse-width control methods. While the seminar was being conducted, the participants had an opportunity to see a special exhibition prepared by the VDNKh. A resolution recommending further development in the field of semiconductors for power drives was adopted at the conclusion of the seminar. [JPRS]

SUB CODE: 09, 13 / SUBM DATE: none

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DOBROMYSLOV, I.I.; [illegible]

Scientific and technical review: "Semiconductor power converters and their use in present-day automated production processes." Elektrichestvo no.5:91-93 My '65.

(MIRA 18:6)

KRUGLYANSKIY, M.R.; CHUPRUNOV, D.I., red.; PAN'SHINA, L.N., red.izd-va; SHLYK, M.D., tekhn.red.

[Handbook for admission to specialized schools of the U.S.S.R.] Spravochnik dlia postupaiushchikh v srednie spetsial'nye uchebnye zavedeniia SSSR (tekhnikumy, uchilishcha, shkoly) v 1959 g. Moskva, Gos.izd-vo "Sovetskaia nauka," 1959. 370 p. (MIRA 12:8)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego obrazovaniya. (Technical education)

KRUGLYANSKIY, M.R.; KISELEV, M.M., red.; GRIGORCHUK, L.A., tekhn.red.

[Handbook for students entering special secondary schools of the U.S.S.R. (technical schools) in 1960] Spravochnik dlia postupaiushchikh v srednie spetsial'nye uchebnye zavedeniia SSSR (tekhnikumy, uchilishcha, shkoly) v 1960 g. Moskva, Gos. izd-vo "Vysshaia shkola," 1960. 358 p. (MIRA 13:5)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego i srednego spetsial'nogo obrazovaniia.
(Technical education)

KRUGLYANSKIY, Mikhail Samoylovich; BESSONOV, L.A., doktor tekhn. nauk, prof., retsenzent; STEPANYUK, A.G., red.

[Handbook of electrical engineering] Elektrotekhnicheskii spravochnik. Belgorod, Belgorodskoe knizhnoe izd-vo, 1962. 479 p. (MIRA 16:2)
(Electric engineering—Handbooks, manuals, etc.)

KRUGLYASHOV, V.N.

Experimental work of rural school students. Biol.v shkole no.6:48-52 N-D '62. (MIRA 16:2)

1. Tambovskiy pedagogicheskiy institut.
(Tambov Province--Agriculture--Experimentation)

UGRYUMOV, V.M.; KRUGLYI, M.M.; VINARSKAYA, Ye.N.; KOCHKOV, A.A., red.

[Therapeutic gymnastics in injuries to the spine and spinal cord] Lechebnaia gimnastika pri povrezhdeniiakh pozvonochnika i spinnogo mozga. Moskva, Medtisina, 1964. 182 p. (MIRA 17:5)

SOV/126-7-6-10/24

AUTHORS: Amonenko, V. M., Kruglykh, A. A. and Tikhinskiy, G.F.

TITLE: Vacuum Distillation of Chromium

PERIODICAL: Fizika metallov i metallovedeniye, 1959, Nr 6, pp 868-874 (USSR)

ABSTRACT: Impurities in chromium make it brittle and difficult to deform at high temperatures and decrease its usefulness as a heat-resisting alloy base. Much work (Refs 1-10) has been done on its purification. This included vacuum distillation (Ref 1) at 10^{-4} mm Hg and 1400°C with condensation on a surface at unspecified temperature, which, as shown in Table 1, failed to effect any improvement. The authors describe their own work at a laboratory of the FTI of the Ac.Sc., UkrSSR on chromium distillation in a high vacuum onto a heated surface. The method has been reported (Ref 11). The temperatures of distillation and condensation can, assuming the applicability of Raoult's law, be calculated for the particular purification required. Fig 1 shows a general view of the installation, provided with a high-vacuum and backing pumps. Evaporation was effected from alumina or beryllium-oxide crucibles heated by tungsten

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or molybdenum wire spirals, and condensation in a ceramic column internally coated with tantalum sheet (Fig 2). Temperatures were measured with a type OPPIR-09 optical pyrometer and all experiments were at 10^{-5} mm Hg. Chromium samples produced by the alumino-thermic and the electrolytic methods were distilled: the initial and final compositions are shown in Tables 2 and 3 respectively. Distillation was effected at 1250-1500°C, the condensing-column temperature being 950-1200°C. The chromium was deposited (Fig 3) in the lower and middle zones. No purification from iron or aluminium resulted for the alumino-thermic material and these elements, together with carbon and silicon, were also the most difficult to eliminate from electrolytic chromium. It was found, however, that by passing the chromium vapour through a filter of chromium-oxide powder, the aluminium present in the chromium is oxidized and its content in the refined metal falls to 0.001-0.003 but that of oxygen rises to 0.03%. By passing the vapour through zirconium turnings, the silicon content could be reduced to 0.001%.

Simultaneous purification to 0.003, 0.001 and 0.005% Al, Si and C, respectively, was obtained by fusion in air of either form of chromium with 5% tungsten before distillation. The micro-hardness of chromium distilled at 10^{-4} to 10^{-7} mm Hg was determined with a type PMT-3 machine, the results (Table 4) showing that the softest material is that distilled at the lowest pressure. Freshly-distilled chromium had considerable plasticity, but on storage in air this decreased due to the absorption of nitrogen, oxygen and hydrogen (Table 5).
There are 4 figures, 5 tables and 13 references, 2 of which are Soviet, 10 English and 1 German.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UkrSSR (Physico-technical Institute, Ac.Sc., Ukrainian SSR)

SUBMITTED: February 25, 1958

S/126/60/009/01/026/032
E091/E191

18750

AUTHORS: Kruglykh, A.A., Pavlov, V.S., and Tikhinskiy, G.F.

TITLE: Recrystallization of Beryllium

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol 9, Nr 1, pp 148-151 (USSR)

ABSTRACT: High-purity beryllium (99.98%), distilled in high vacuum, was used in this work to investigate recrystallization. This beryllium contained the following impurities: 10^{-3}% Cu; 10^{-3}% Fe; 10^{-3}% Al; 10^{-3}% Mn; 10^{-4}% Ni; 2 x 10^{-3}% Ca; 10^{-3}% Mg; 5 x 10^{-3}% C; and 3 x 10^{-3}% Cr. The specimens were made in the form of plates, 0.8 mm thick, by condensation of beryllium vapours in high vacuum (approximately 10^{-6} mm Hg) on a molybdenum backing at a temperature of 250 °C. In order to ensure uniform structure, the plates were subjected to deformation by 30% along the width by repeated rolling at room temperature in air (the reduction in area in each rolling was approximately 0.3%), followed by annealing at 700 °C for 15 hours. In order to study recrystallization, the specimens were again deformed by 25% along the width by rolling under the same conditions in two directions at

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Recrystallization of Beryllium

right-angles to each other. The structure of the specimens after these treatments is shown in Figs 1a-3 and Fig 2a. Fig 3 shows the dependence of the duration of the recrystallization process on the temperature of isothermal annealing after the final deformation. Fig 4 shows the dependence of the average grain diameter on the time of isothermal annealing in logarithmic coordinates. On the basis of the above experiments the activation energy of recrystallization of beryllium deformed by 25% along its width was found to be 21 ± 3 kcal/g.atom. The activation energy of grain growth in finely crystalline beryllium is 3[illegible] ± [illegible] kcal/g. atom.

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There are 4 figures and 5 references, of which 3 are Soviet and 2 English.

ASSOCIATION: Khar'kovskiy fiziko-tekhnicheskiy institut AN USSR (Khar'kov Physico-Technical Institute, Acad.Sci. Ukr.SSR)

SUBMITTED: August 15, 1959

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S/126/60/010/004/012/023
E021/E406

AUTHORS: Ivanov, V.Ye., Amonenko, V.M., Tikhinskiy, G.F. and Kruglykh, A.A.

TITLE: Refining Beryllium by Vacuum Distillation

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol.10, No.4, pp.581-585

TEXT: Previous work (Refs.11 to 14) had shown the possibility of purifying beryllium from certain elements despite similar volatilities of these elements and beryllium. The present work was carried out using a diffusion pump giving residual pressures of 10^{-5} to 10^{-6} mm Hg. A beryllium oxide crucible was used for evaporating the beryllium, heated by molybdenum spirals. The condensing column, placed over the crucible, is shown in Fig.1. Condensation took place on the molybdenum plate on the inside of the column. The condensation surface was heated to 900 to 1100°C (measured by a pyrometer and by thermocouples) and the optimum temperature was determined. Fig.2 shows the ratio of the impurity content in the original material (q_2) to the impurity in the condensate (q_1) plotted against the temperature of evaporation (1 - iron, 2 - nickel, 3 - copper, 4 - silicon). Fig.3 shows

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the change in manganese content with increasing column temperature. A similar change occurs with aluminium. Fig.4 shows that 85 to 90% of the original material can be distilled before the impurity concentrations increase to any extent. Fig.5 shows a column with baffles which has been used very successfully. The table gives the chemical composition of the initial beryllium (second column) and the beryllium after distillation (third column using a simple condensing column, and the fourth column using baffles). The purest beryllium is obtained in the middle zone and is 99.99% apart from oxygen (0.04%) and carbon (0.02%). The carbon originates from oil vapours from the diffusion pump, and the oxygen from sublimation of the crucible material (BeO) and reactions between beryllium and the crucible material to form Be_2O. The microhardness of the distilled beryllium (99.98%) decreased to 130 kg/mm^2 for monocrystals and the hardness of the cast metal was 100 H_b - a decrease by a factor of 1.5 to 2. The low plasticity of the beryllium is explained by the considerable quantities of carbon and oxygen still present. There are 5 figures, 1 table and 16 references: 8 Soviet and 8 English.

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Refining Beryllium by Vacuum Distillation

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR
(Physics and Engineering Institute, AS UkrSSR)

SUBMITTED: April 12, 1960

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B010/B008

18.7400

AUTHORS: Amonenko, V. M., Kruglykh, A. A., Pavlov, V. S., Tikhinskiy, G. F.

TITLE: Manufacture of a Beryllium Foil

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 5, pp. 625-626

TEXT: Beryllium foils of a thickness of 20-300 μ are used for the manufacture of X-ray counter tube windows. With the existing methods for the manufacture of such foils there is the difficulty of obtaining foils which are sufficiently plastic at room temperature. A method according to which beryllium is deposited by vaporization on a polished molybdenum lamella in vacuum (approx. 10^{-6} mm Hg) is described. The beryllium is deposited by vaporization on the preheated molybdenum lamella from a BeO-crucible at 1300-1550°C in vacuum and then treated thermally (in vacuum). The dependence of the plasticity of the finished beryllium foil on its thickness (Fig. 1), on the temperature of condensation (Fig. 2) and the length of the thermal aftertreatment (Fig. 3) was investigated. Vacuum tight and plastic foils are obtained

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if the molybdenum underlayer has 50-100°C at the beginning of the deposition by vaporization, and the temperature is thereafter quickly increased. It was determined that the grain of the foil gets coarser with the increase of the temperature and prolongation of the duration of the beryllium condensation. A corresponding duration is to be applied for each temperature of the thermal aftertreatment. It is recommended to aftertreat thermally for 6 and 3 hours at 700 and 800°C. Foils of a thickness of 40-70 μ are vacuum tight, if the underlayer was not heated above 300°C. There are 3 figures and 2 references, 1 of which is Soviet.

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