APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

ACCESSION NR: AT4008733 S/2631/63/000/004/0055/0066

AUTHOR: Anfinogenov, A. I.; Belyayeva, G. I.; Smirnov, M. V.; Ilyushchenko, N. G.

TITLE: Structure and phase composition of beryllium coatings deposited on copper in fused salt electrolytes

SOURCE: AN SSSR. Ural'skiy filial. Institut elektrokhimii. Trudy*, no. 4, 1963. Elektrokhimiya rasplavlenny*kh solevy*kh i tverdy*kh elektrolitov, 55-66

TOPIC TAGS: beryllium coating, beryllium plating, beryllium plated copper, coating structure, coating phase composition, fused salt electrolysis, fused salt, beryllium electrodeposition

ABSTRACT: Rates of Be deposition (i.e. cathode current density) and mutual diffusion of Be and Cu (i.e. temperature and duration of electrolysis) were studied in relation to their effects on the structure and phase composition of coatings deposited on a cathode during electrolysis in fused salts. Be was deposited on Cu cathodes in a fused electrolyte (eutectic mixture of KCl + NaCl + 16% $BeCl_2$ by weight at temperatures of 710, 750, 800 and 835C, current densities of 0.004, 0.01, 0.02 and 0.04 a/cm^2 and exposures of 1, 2, 4, 6 and 8 hours. The electrolytic cell was described in AN SSSR, Ural'skiy filial. Institut elektrokhimii. Trudy*, no. 4, 1963, 47-53. The results tabulated in the original and shown

Card 1/4

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

BELYAYEVA, G.I.; SHCHETNIKOV, Ye.N.; ILYUSHCHENKO, N.G.

Possibility of obtaining heat-resistant coatings on molybdenum by the use of the electrolytic method. Trudy Inst. elektrokhim. UFAN SSSR no.3:101-110 '62. (MIRA 16:6)

(Heat resistant alloys) (Molybdenum)
(Electrolysis)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

ANFINOGENOV, A.I.; SMIRNOV, M.V.; ILYUSHCHENKO, N.G.; BELYAYEVA, G.I.

Study of the thermodynamics of the beryllium - copper system by the electromotive force method. Trudy Inst. elektrokhim. UFAN SSSR no.3:83-100 '62. (MIRA 16:6)

(Beryllium-copper alloys--Thermodynamic properties)
(Electromotive force)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

KONDRATOV, V.K.; ROS'YANOVA, N.D.; KOKSHAROV, V.G.; BELYAYEVA, G.F.

Determination of diphenic and phthalic acids in mixtures obtained by oxidation of phenanthrene. Zhur. anal. khim. 20 no. 11:1255-1257 '65 (MIRA 19:1)

1. Submitted November 24, 1964.

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RUS'YANOVA, N.D.; GOFTMAN, M.V.; BELYAYEVA, G.F.

Recovery of concentrated phenanthrene from the phenanthrene fraction. Koks i khim. no.8:40-42 '63. (MIRA 16:9)

1. Vostochnyy uglekhimicheskiy institut (for Rus'yanova).
2. Ural'skiy politekhnicheskiy institut im. Kirova (for Goftman, Belyayeva).
(Phenanthrene) (Coke industry--By-products)

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RUS'YANOVA, N.D.; KHARLAMPOVICH, G.D.; BELYAYEVA, G.F.

Oxidation of the anthracene-phenanthrene fraction for the production of anthraquinone, phthalic and maleic anhydrides. Kin.i kat. 3 no.2:289-291 Mr-Ap '62. (MIRA 15:11)

1. Ural'skiy politekhnicheskiy institut.
(Anthracene) (Anthraquinone)
(Phthalic anhydride) (Maleic anhydride)

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Oxidation of anthracene- ... S/068/62/000/001/002/002
E071/E435

Table 3.

1. raw material
2. contact time, sec
3. load on catalyst, g/litre hr
4. Yield at the theoretical
5. anthraquinone
6. lactone
7. phthalic anhydride
8. maleic anhydride
9. 55% anthracene, 35% phenanthrene and 10% carbazole
10. 45% anthracene, 40% phenanthrene and 15% carbazole.

Card 5/6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

stages; single-stage scrubbing would be difficult due to a high density of the product pulp (a high concentration of anthraquinone). The first stage scrubbing should be done in a Venturi scrubber with a water spray as the cooling medium. It is concluded that the oxidation of anthracene-phenanthrene fraction containing approximately equal proportions of anthracene and phenanthrene and a minimum amount of carbazole would be advantageous on an industrial scale. There are 5 figures, 5 tables and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to an English language publication reads as follows:
Ref.1: Kinneu, C.R., Pinkus, I. Ind. Eng. Chem. 1951, 43, no.12, 2880.

ASSOCIATION: Ural'skiy politekhnicheskiy institut
(Ural Polytechnical Institute)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

anthraquinone increased to 84% but simultaneously the yield of anhydrides decreased. An increase in the load on the catalyst from 50 to 66 g/litre hr has a positive influence on the process. Optimum conditions at 370°C were: 1.36 sec contact time and 66 g/litre hr load on the catalyst. The composition of the mixture (proportion of anthracene to phenanthrene and the content of carbazole) also has a considerable influence on the process (Table 3). In the experiments the oxidation products - anthraquinone, lactone and a part of the phthalic anhydride (about 20%) - were caught in the air condenser, the remaining products in water. The separation of the reaction products presented no difficulties. Anthraquinone was purified by washing with hot water to remove phthalic anhydride, with a 20% alkali to remove lactone and then sublimated. The pure product had a melting temperature of 286 to 287°C. The aqueous solution of phthalic and maleic acids was evaporated in vacuo and anhydrides redistilled. These can be used as a mixture or separated on the basis of the difference in their solubility in water. It is considered that under industrial conditions, the condensation of the oxidation products should be done in two

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

Whereupon from anthracene, anthraquinone is obtained with a yield of 60% and from phenanthrene 54% of phthalic and 13.3% of maleic anhydrides. On shortening the contact time, the oxidation is incomplete and among the products of oxidation of phenanthrene lactone of 2-oxydiphenyl-2' carbonic acid is formed. The oxidation of anthracene-phenanthrene fraction at 370°C and contact time of 2.3 to 2.4 seconds leads to its complete combustion. Only on shortening the contact time to 2 sec was a yield obtained which was equal to that obtained from pure products at a contact time of 2.4 sec. However, there are substantial differences in the conditions of oxidation of phenanthrene:
1) the reaction products contained lactone, which on oxidation of pure phenanthrene appears only at a contact time of 1 sec;
2) there was a decrease in the combustion of phenanthrene and the total yield of its oxidation products increased to 90% (72% acid products and 18% lactone). On shortening the contact time to 1.36 sec, a similar phenomenon was observed for anthracene; due to a decrease in the degree of complete combustion the yield of anthraquinone increases to 81%. On further shortening of the contact time to 1.06 sec, the yield of

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

S/068/62/000/001/002/002
E071/E435

AUTHORS: Rus'yanova, N.D., Kharlampovich, G.D., Belyayeva, G.F., Goftman, M.V.

TITLE: Oxidation of anthracene-phenanthrene fraction with the production of anthraquinone, phthalic and maleic anhydrides

PERIODICAL: Koks i khimiya, no.1, 1962, 47-52

TEXT: The process of oxidation of the above fraction in the air-vapour phase over a vanadium-potassium-sulphate-silica gel catalyst (K-26) used in the industrial oxidation of naphthalene was investigated on a laboratory scale. The starting fraction was obtained by rectification of raw anthracene fraction with a column equivalent to 25 theoretical plates. The yield of the fraction was about 50% on raw anthracene. About 80% of anthracene and 75 to 80% of phenanthrene were concentrated in this fraction; mean composition: anthracene - 40 to 45%, phenanthrene - 35 to 40% and carbazole - 10 to 15%. The oxidation of pure anthracene and phenanthrene takes place under the following identical conditions: temperature 370°C, contact time 2.3 to 2.4 seconds, load on the catalyst 25 to 30 g/litre hr.

Card 1/5

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

Production of Dicarboxylic Acids From By-products of the Coke Industry (Liquid Oxidation of Phenanthrene)

S/191/60/000/005/013/020
B004/B064

was attained with $KHSO_4$ after 1.5 h. The reaction temperature was raised to 95°C. Best results at 95°C were obtained with $K_2S_2O_7$: 88% yield. Diphenic acid was yellowish. White diphenic acid was obtained with $(NaPO_3)_6$, which needed no further purification. The yield was 74-75%. After having checked the optimum amount of catalyst and dependence of diphenic acid yield on the time of oxidation, the following method is suggested: 1 kg of 93% phenanthrene and 150-200 g of catalyst are dissolved in 5 l of 98% acetic acid, heated to 95°C, and subsequently 30% H_2O_2 was added, i.e., 3 l when $(NaPO_3)_6$ was used as a catalyst, and 5 l when $K_2S_2O_7$ was used. Above 95°C, too much H_2O_2 is lost in side reactions. 70% diphenic acid crystallizes when cooling down to 20-25°C. The remaining 10-15% of the total yield are precipitated after distilling off acetic acid in vacuo, extracting the residue with 10% soda solution, and adding concentrated HCl. Yields of 70-75% were reached when 80% phenanthrene was used. There are 4 figures, 3 tables, and 8 references: 4 Soviet, 3 US, and 1 German.

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

S/191/60/000/005/013/020
B004/B064

AUTHORS: Rus'yanova, N. D., Gordeyeva, Z. K., Belyayeva, G. F.

TITLE: Production of Dicarboxylic Acids From By-products of the Coke Industry (Liquid Oxidation of Phenanthrene)

PERIODICAL: Plasticheskiye massy, 1960, No. 5, pp. 43-46

TEXT: The authors discuss the development of a cheap method of producing dicarboxylic acids. Phenanthrene oxidized with peracetic acid is mentioned as suitable initial material. Resins on the basis of diphenic acid are better than resins produced from phthalic anhydride. First, the formation of peracetic acid from 112 moles of acetic acid and 16 moles of 30% H_2O_2 at 80°C was studied. The amount of peracetic acid reached a maximum after 2-2.5 hours, which, however, was not sufficient to warrant an intensive oxidation of phenanthrene. Therefore, various acid catalysts were used (H_2SO_4, H_3PO_4, HNO_3, $KHSO_4$, $K_2S_2O_7$, as well as ortho-, meta-, and hexametaphosphates). A 66% transformation of H_2O_2 into peracetic acid

Card 1/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

MINTS, R.S.; BELYAYEVA, G.F.; MALKOV, Yu.S.

Investigating the interaction between Ni_3Al and Ni_3Nb metallic compounds. Issl.po zharopr.splav. 8:79-84 '62. (MIRA 16:6)
(Intermetallic compounds) (Phase rule and equilibrium)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

MINTS, R.S.; BELYAYEVA, G.F.; MALKOV, Yu.S.

Phase diagram of the system Ni_3AL - Ni_3NB. Zhur.neorg.khim. 7 no.10:2382-2387 O '62. (MIRA 15:10)
(Intermetallic compounds) (Nickel alloys)

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ASTROVA, Nina Vladimirovna; BELYAYEVA, Galina Fedorovna, kand. tekhn. nauk; DLUGACH, Lev Samoylovich, prof.; KRUTIKOVA, Mariya Sergeyevna; OSHANINA, Aleksandra Ivanovna; TIMOSHENKO, N.N., kand. tekhn. nauk, red., **CHESKIS, Z.B., red.**; PLAKSHE, L.Yu., tekhn. red.

[French-Russian metallurgical dictionary]Frantsuzsko-russkii metallurgicheskii slovar'. [By] N.V.Astrova i dr. Pod red. G.F.Beliaevoi i N.N.Timoshenko. Moskva, Glav. red. inostr. nauchno-tekhn. slovarei Fizmatgiza, 1962. 433 p. (MIRA 15:10)
(French language--Dictionaries--Russian)
(Metallurgy--Dictionaries)

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S/659/62/008/000/011/028
I048/I248

A study of the interaction...

amounts of Ni_3Nb are added; the maximum values are: of p-128-130 ohm.cm x 10^6 for the alloy containing 35-45% Ni_3Nb (i.e., the single phase alloy at the limit of solubility of the Ni_3Nb); of Hv - 444 kg./sq.mm. for the alloy containing 50% Ni_3Nb after tempering at 1100° and annealing (i.e., the two-phase alloy with a minimum amount of the second phase). Photomicrographs showing the microstructure of the various alloys are presented. There are 3 figures and 1 table.

Card 3/4

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

S/659/62/008/000/011/028
I048/I248

A study of the interaction...

poweder method, using the NiCo K_α radiation was applied in the x-ray analysis, and conventional techniques were used in the other cases. The stoichiometric composition Ni_3Al crystallizes at 1390-1400°; alloys containing less than 40% Ni_3Nb are composed of a single phase, viz., a Ni_3Al - based solid solution. Alloys containing >40% Ni_3Nb (except pure Ni_3Nb) show the presence of two different crystalline lattices - a face-centered-cubic one (Ni_3Al-based solid solution, a=3.562 Å in the case of pure Ni_3Al), and a rhombic one (Ni_3Nb-based solid solution, a=5.090 Å, b=4.234 Å, c=4.524 Å in the case of pure Ni_3Nb). The eutectic composition is 30% Ni_3Al, 70% Ni_3Nb, crystallization temperature = 1280°. Both the electric resistivity (ρ) and the hardness (H_v) increase with increasing Ni_3Nb to a certain maximum, and decrease if further

Card 2/4

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

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S/659/62/008/000/011/028
I048/I248

AUTHORS: Mints, R.S., Belyayeva, G.F., and Malkov, Yu.S.

TITLE: A study of the interaction between the intermetallic compounds Ni_3Al and Ni_3Nb

SOURCE: Akademiya nauk SSSR. Institut metallurgii, Issledovaniya po zharoprochnym splavam. v.8. 1962. 79-84

TEXT: Various methods (thermal, metallographic, and x-ray, diffraction analysis, and hardness and electric resistivity measurements) were used in a study of the interaction between Ni_3Al and Ni_3Nb, and the results are presented graphycally, within the coordinates structure vs. hardness, structure vs. electric resistivity, and as the phase diagram for the system at 600-1500°. The

Card 1/4

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

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S/020/62/143/004/018/027
B106/B138

Interaction between the metallic ...

Fig. 2. Phase diagram of the system Ni_3Al - Ni_3Nb (α), composition - hardness (δ), composition - resistivity (β). Legend: (1) One-phase structure, (2) two-phase structure, (3) as-quenched, (4) annealed; abscissa: % by weight, ordinate bottom left: ohm·cm, ordinate center right: kgf/mm^2.

Card 3/4

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

Institute of the Civil Air Fleet) by V. G. Chuprina under the supervision of Professor M. P. Arbuzov. Exact data of these studies has been published separately (M. P. Arbuzov, V. G. Chuprina, Issledovaniya po zharoprochnym splavam, 7, 1961). From the results obtained the phase diagram was constructed and hardness and resistivity were plotted against composition (Fig. 2). There are 2 figures and 1 table. The four most important English-language references are: A. Taylor, R. W. Floyd, J. Inst. Metals, 81, 25 (1952-1953); L. Vegard, Structure Reports, 11, 27 (1947-1948); J. H. Westbrook, J. Metals, Trans. Sec., 9, 7, 898 (1957); O. Kubashewski, A. Schneider, J. Inst. Metals, 75, 403 (1948-1949).

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy imeni A. A. Baykov)

PRESENTED: October 25, 1961, by I. I. Chernyayev, Academician

SUBMITTED: October 20, 1961

Card 2/4

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S/020/62/143/004/018/027
B106/B138

18.1750

AUTHORS: Mints, R. S., Belyayeva, G. F., and Malkov, Yu. S.

TITLE: Interaction between the metallic compounds Ni_3Al and Ni_3Nb

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 4, 1962, 871-874

TEXT: Continuing earlier work, the authors studied this interaction by thermal, metallographic and X-ray structural analyses, and hardness and electrical resistivity measurements. The microstructure was studied in the as-cast state, after quenching from various different temperatures (1200°C - 5 hr, 1000°C - 100 hr, 800°C - 300 hr, 600°C - 750 hr), and after slow cooling. 10% oxalic acid was used as the etching medium. Electrical resistivity was measured potentiometrically, hardness on a Vickers tester (10 kg). Nickel-filtered cobalt K_α radiation was used for the X-ray phase analyses of powder specimens in a Debye camera. X-ray structural analysis of Ni_3Al - Ni_3Nb alloys was conducted at the same time at the Kiyevskiy institut grazhdanskogo vozdushnogo flota (Kiyev

Card 1/3

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

LOZINSKIY, Mikhail Grigor'yevich, doktor tekhnicheskikh nauk; BELYAYEVA, G.I., kandidat tekhnicheskikh nauk, retsenzent; RAKHSHTADT, A.G., kandidat tekhnicheskikh nauk, redaktor; TIKHONOV, A.Ya., tekhnicheskiy redaktor

[High temperature metallography] Vysokotemperaturnaia metallografiia. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 311 p. (MLRA 10:2)

(Metallography) (Metals at high temperatures)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

ANIKIN, A.V.; BELYAYEVA, G.A.; CHURBANOV, I.M.

Quick method for qualitative analysis of samples in X-ray spectra. Izv.AN Turk.SSR.Ser.fiz.-tekh.,khim.i geol.nauk. no.3:120-121 '62. (MIRA 16:5)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.
(X-rays spectroscopy) (Chemistry, Analytical—Qualitative)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

BELYAYEVA, G.A.; ANIKIN, A.V.

The technique of X-ray spectrographic analysis. Izv.AN Turk. SSR.Ser.fiz.-tekh., khim.i geol.nauk no.2:118-120 '62. (MIRA 15:4)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.
(Spectrum, X-ray)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

BAYEVSKIY, R.M.; BELYAYEVA, F.N.; SEL'TSER, F.K., kand.meditsinskikh nauk

Method for mass ballistocardioscopy. Sov. med. 24 no.4:105-109 Ap '60. (MIRA 13:8)

1. Iz kafedry klinicheskoy i eksperimental'noy fiziologii (zav. - deystvitel'nyy chlen AMN SSSR V.V.Parin) TSentral'nogo instituta usovershenstvovaniya vrachey zdravpunkta avtoremontnogo zavoda Leningradskogo upravleniya avtomobil'noto transporta (zav. F.N. Belyayeva) i Instituta radiatsionnoy gigiyeny (dir. - chlen-korrespondent AMN SSSR N.F. Galinin).
(BALLISTOCARDIOGRAPHY)

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L 10793-65
ACCESSION NR: AP4052555

by the radicals formed during vulcanization from the accelerators. In the present work the MBT was determined quantitatively by titration with a solution of copper oleate. It was found that in the presence of a combination of BTD and CBTSA the highest dehydrogenation capacity was displayed by the SKB rubber, while natural rubber showed only traces of MBT formation and SKS-30 occupied an intermediate position. Determinations were also made on the rate of incorporation of the RS' radicals into the various rubbers during vulcanization. These determinations confirmed the leading position occupied by SKB and the last by natural rubber. The structurization effect of BTD and CBTSA, as determined by the degree of swelling of the vulcanized rubbers in xylene, also confirmed the leading position of SKB, followed by SKS-30, and then by natural rubber. This order of reactivity was reversed, however, when 3.5% of elemental sulfur was added. The authors theorize that the RS radicals may have a prime affinity for vinyl side chain groups and that the maximal reactivity of natural rubber towards elemental sulfur may be due to its preferential tendency to attach itself along the double bonds of the main chain. Orig. art. has: 5 chem. eq.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

SUBMITTED: 24Apr63 ENCL: 00

SUB CODE: MC NO REF SOV: 006 OTHER: 000

Card 2/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

L 10793-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pe-4 AFETR RM
ACCESSION NR: AP4032165 S/0190/64/006/004/0635/0641

AUTHORS: Degtekin, B. A.; Feldshteyn, M. S.; Belyayevay, E. N.

TITLE: Interaction between vulcanization accelerators and rubbers of various structure

SOURCE: Vysokomolek. soyedin., v. 6, no. 4, 1964, 635-641

TOPIC TAGS: rubber, natural rubber, butadiene styrene rubber, sodium butadiene rubber, vulcanization, vulcanization accelerator, dehydrogenation, RS radical, structure, SKS 30 rubber, SKB rubber

ABSTRACT: The purpose of the study consisted in evaluating the reactivity of rubbers of various structure towards the radicals derived from accelerators in the vulcanization process and the role of sulfur in the reactions. The investigation was conducted on natural rubber, butadiene-styrene rubber (SKS-30) and sodium-butadiene rubber (SKB). The accelerators di-o-benzthiazyldisulfide (DM) and N-cyclohexyl-2-benzthiazylsulfenamide (CBS) were used with and without elemental sulfur. The vulcanization process was studied in a 5% xylene solution at 145° and also in the solid state, in the presence of 5% of an accelerator. The formation of 2-mercaptobenzthiazole (MBT) served as a criterion of dehydrogenation of the rubber.

Card 1/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

ACCESSION NR: AP4023498

order of rubber compounds. No reversion was observed, even with natural rubber. Reversion occurred only upon addition of sulfur and increased with increasing sulfur additions and temperatures. This may be assumed to be accompanied by destruction of prior polysulfide bonds and formation of intramolecular cyclic structures. Synthetic rubbers were less subject to reversion, presumably because of the presence of side groups. For best vulcanization results with this accelerator, temperatures of 153-163C and minimal additions of elemental sulfur are recommended. Orig. art. has: 3 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promy*shlennosti, Moscow (Scientific Research Institute of Tire Industry)

SUBMITTED: 09Aug63 DATE ACQ: 15Apr64 ENCL: 00

SUB CODE: CH NR REF SOV: 007 OTHER: 000

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Card

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

ACCESSION NR: AP4023498 S/0069/64/026/002/0186/0189

AUTHORS: Dogadkin, B.A.; Fel'dshteyn, M.S.; Belyayeva, E.N.

TITLE: Crosslinking of rubbers under the influence of di-2-benzthiazyldisulfide

SOURCE: Kolloidny*y zhurnal, v. 26, no. 2, 186-189

TOPIC TAGS: benzthiazyldisulfide, sulfenamide, synthetic rubber, natural rubber, sodium butadiene, butadiene styrene, elemental sulfur addition, vulcanization, vulcanization temperature, rubber cross-linking, vulcanization accelerator, vulcanization reversion

ABSTRACT: The influence of this accelerator on sodium butadiene, butadienestyrene and natural rubber at vulcanization temperatures (143, 153, 163 and 173C) and the influence of elemental sulfur additions (0.1 - 2%) on the course of this reaction were studied. The cross-linking effect was determined by the degree of swelling in a xylene mixture after heating to the various temperatures. The results are graphed. The cross-linking effect of the accelerator was directly dependent upon the temperature and decreased in the above-mentioned

Card 1/2

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DOGADKIN, B.A.; FEL'DSHTEYN, M.S.; BELYAYEVA, E.N.

Interaction of di-2-benzothiazyl disulfide with rubbers of various structures. Dokl. AN SSSR 142 no.4:828-830 F '62. (MIRA 15:2)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti. Predstavleno akademikom A.A.Balandinym.

(Disulfide)
(Rubber)

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1, no. 1, 58 (1959)) is mentioned. There are 2 figures, 2 tables, and 7 Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

PRESENTED: September 15, 1961, by A. A. Balandin, Academician

SUBMITTED: September 13, 1961

Table 1. Legend: (1) Rubber type; (2) structural formula; (3) number of double bonds in position 4-1, %; (4) amount of 2-mercaptobenzothiazole formed (after a 60 minute continuous heating up to 140°C) in % of the initial disulfide; (5) SKB; (6) SKS-30A; (7) NK; (8) SKD; (9) traces. Table 2. Number of cross links formed in rubber SKB on heating with 5.0 parts by weight of di-2-benzo-thiazyl disulfide. Legend: (1) Time of heating, minutes; (2) number of cross links $N_c \cdot 10^{19}$, ml^{-1}; (3) number of cross links per one H-atom absorbed from rubber; (4) number of H-atoms absorbed from rubber per cross link.

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S/020/62/142/004/014/022
B106/B110

conditions of press cure in the rubber mass at 143°C. Natural, butadiene-styrene (СКС-30(SKS-30)) and sodium-butadiene rubber SKB with 5.0 parts by weight of di-2-benzo-thiazyl disulfide were studied. The formation of cross links between the chain molecules of rubber was estimated from the swelling in xylene of rubber mixtures with different time of heating. It was found that the capability of the rubbers of being structuralized under the influence of thiobenzothiazolyl radicals increases in the same order as the capability of being dehydrogenated. Natural rubber is least, sodium-butadiene rubber most structuralized. For sodium-butadiene rubber, the number of cross links occurring in the cleavage of one hydrogen atom of rubber by one thiobenzothiazolyl radical is calculated from the maximum swelling of rubber in xylene by using the corresponding monographs. The number of hydrogen atoms absorbed from rubber was calculated from the amount of 2-mercaptobenzothiazole isolated from the rubber mixture by treating it with hot acetone. Table 2 shows the results. It can be concluded from the experimental results obtained that the structuralization of rubbers under the influence of thiobenzothiazolyl radicals is mainly the result of rubber dehydrogenation with subsequent recombination of the polymeric radicals. A paper by B. A. Dogadkin and V. A. Shershnev (Ref. 6: Vysokomolek. soyed.,

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Reaction of di-2-benzo-thiazyl...

disulfide and N-cyclohexyl-2-benzothiazole sulfene amide served as a source of thiobenzothiazolyl radicals, since such a mixture yields more radicals than either component alone. It was found that at 140°C the thiobenzothiazolyl radicals strip off hydrogen neither from the cyclohexyl amide groupings nor from the molecules of the solvent (xylene) they are, however, well capable of rubber dehydrogenation. The most intense dehydrogenation is observed in the sodium-butadiene rubber SKB. Only traces of 2-mercaptobenzothiazole are formed in the case of natural and butadiene rubber SKD which has a 1-4 cis-structure. Natural rubber is not noticeably dehydrogenated even when the experiment is conducted in vacuo. Butadiene-styrene rubber takes an intermediate position between sodium-butadiene and natural rubber. The difference in the dehydrogenation rate of rubbers in the reaction with thiobenzothiazolyl radicals is connected with the existence of different carbon-hydrogen bonds. Tertiary C-H bonds are most easily dehydrogenated. This explains the data in Table 1 (quantity of formed 2-mercaptobenzothiazole as dependent on the structure of the rubber used. The question whether the observed different reactivity of the rubbers toward thiobenzothiazolyl radicals influences the rubber structuralization was also studied. Di-2-benzo-thiazyl disulfide served as radical source. The reaction of the accelerator with the rubber was carried out under the

Card 2/5

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B106/B110

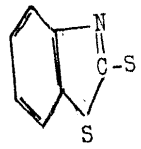
11.2211
15.9201

AUTHORS: Dogadkin, B. A., Fel'dshteyn, M. S., and Belyayeva, E. N.

TITLE: Reaction of di-2-benzo-thiazyl disulfide with rubbers of different structures

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 4, 1962, 828-830

TEXT: The reactivity of rubbers of different structure (natural, butadiene-styrene (СКС-30А(SKS-30A)), sodium-butadiene (food-СКБ(SKB)) and butadiene (СКД(SKD)) rubber) toward thiobenzothiazolyl radicals



was studied. In the reaction with rubber these radicals absorb hydrogen from the rubber chain molecules. This leads to the formation of polymeric radicals and 2-mercaptobenzothiazole. A mixture of di-2-benzothiazyl

Card 1/4

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81608

The Action of Binary Systems of Vulcanization Accelerators. II. The Chemical Interaction of Accelerators and the Mechanism of the Activating Action of Binary Systems

S/190/60/002/02/07/011
B004/B061

6 Soviet and 2 US.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

SUBMITTED: November 2, 1959

Card 4/4

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81608

The Action of Binary Systems of Vulcanization Accelerators. II. The Chemical Interaction of Accelerators and the Mechanism of the Activating Action of Binary Systems

S/190/60/002/02/07/011
B004/B061

rubber itself acts as a hydrogen donor. The connection between the yield of 2-mercaptobenzothiazole and the vulcanization activity of these systems was determined. A considerable increase in the yield of 2-mercaptobenzothiazole, caused by the formation of H_2S and its reaction with the disulfide, was observed in the presence of sulfur with systems of disulfides + sulfenamides, or disulfides + organic bases containing nitrogen. In systems where only one accelerator is activated, the yield of 2-mercaptobenzothiazole is much smaller than in systems with mutual activation. Based on these data, a scheme of the mutual activation of accelerators is drawn up, which assumes the formation of an intermediate complex in the initial stage, which decomposes into radicals initiating the polymerization and the reaction of the rubber with sulfur. The possibility on principle of the selection of binary and ternary accelerator systems which guarantee the performance of vulcanization at high temperatures without decreasing the strength of the vulcanizate, was established. There are 14 figures, 2 tables, and 8 references:

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Card 3/4

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81608

The Action of Binary Systems of Vulcanization Accelerators. II. The Chemical Interaction of Accelerators and the Mechanism of the Activating Action of Binary Systems

S/190/60/002/02/07/011
B004/B061

M. Krasukhina), the temperature dependence of the reactions, and the yield of 2-mercaptobenzothiazole are given in Figs. 1 - 13 and Tables 1 and 2. Fig. 14 shows microphotographs of the conversion of the sulfur which was separated by the reaction of di-2-benzothiazyldisulfide with hydrogen sulfide (taken by M. B. Rozova). The following conclusions are drawn from these data: The accelerator combinations examined can be divided, on the basis of their action during the main period of vulcanization, into a) systems with mutual activation of the accelerators; b) systems with activation of only one (the weaker) accelerator; and c) systems with additive action. The kinetics of the systems a) and b) are characterized by a delay in the initial stages of vulcanization compared with the kinetics of the separately applied components. 2-mercaptobenzothiazole is formed on the interaction of accelerators one of which contains benzothiazole groups, and the other is the hydrogen donor (e.g., di-2-benzothiazyldisulfide + diphenylguanidine). In rubber, this compound arises in all systems with mutual activation, when the

Card 2/4

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81608

S/190/60/002/02/07/011
B004/B061

15.9120

AUTHORS: Dogadkin, B. A., Fel'dshteyn, M. S., Belyayeva, E. N.

TITLE: The Action of Binary Systems of Vulcanization Accelerators. II. The Chemical Interaction of Accelerators and the Mechanism of the Activating Action of Binary Systems

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 2, pp. 247-258

TEXT: The authors previously (Ref. 1) examined the action of binary accelerator systems on the vulcanization of butadiene - styrene rubber mixtures. The action of such systems on the vulcanization of natural rubber is studied here. The following systems were used: di-2-benzothiazyldisulfide + diphenylguanidine; 2-mercaptobenzothiazole + diphenylguanidine; N-cyclohexyl-2-benzothiazole sulfenamide + diphenylguanidine; N,N'-diethyl-2-benzothiazole sulfenamide + tetramethylthiuram monosulfide. The action of these systems on the vulcanization, the kinetics of sulfur depositing (studied in collaboration with

Card 1/4

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BELYAYEVA, E. N. Cand Chem Sci -- (diss) "Role of free radicals in the process of low-temperature ~~formation of~~ structuring structure (Vulcanization) in rubber." Mos, 1959. 10 pp (Min of Higher Education USSR. State Committee of the Council of Ministers on Chemistry. Mos Inst of Fine Chem Technology im Lomonosov. Sci Res Inst of Tire Industry). (KL, 52-59, 116)

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DOGADKIN, B.A.; BELYAYEVA, E.N.

Role of free radicals in the low temperature vulcanization (formation of sturcture) of rubber. Vysokom.soed. 1 no.2: 315-323 F '59. (MIRA 12:10)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti. (Rubber) (Radicals (Chemistry)) (Vulcanization)

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DOGADKIN, B.A.; FEL'DSHTEYN, M.S.; BELYAYEVA, E.N.

Effect of double systems of vulcanization accelerators. Vysokom soed. 1 no.2:254-264 F '59. (MIRA 12:10)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti, Moskva.

(Vulcanization)

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DOGADKIN, B.A.; BELYAYEVA, E.N.

Reaction of phenyl-β-naphtylamine with benzoyl peroxide and the effect of O-benzoyl-N-phenyl-N-β-naphthylhydroxylamine on the oxidation of rubber. Vysokom.soed. 1 no.1:123-125 Ja '59. (MIRA 12:9)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti. (Antioxidants) (Naphthylamine) (Benzoyl peroxide)

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OVCHINNIKOV, N.M.; AKOPYAN, A.T.; SMELOV, N.S.; RAKHMALEVICH, E.M.; BELYAYEVA, E.F.; ZERTSALOVA, G.N.; ZALKIN, N.M.; REZNIKOVA, L.S.; AVAKYAN, A.A.

Data on the etiology of pemphigus. Borgyogy. vener. szemle 36 no.5: 193-200 S '60.

1. Az Orosz Szocialista Szovetsegi Koztarsasag Egeszsegugyi Miniszteriuma Kozponti Bor-Nemikortani Intezetenek (Igazgato: Turanov N.M., az orvostudomanyok kandidatusa es a Poliomyelitis-kutato Intezet (Igazgato: prof. Csumakov M.I., a Szovjet Tudomanyos Akademia levelezo tagja) kozlemenye.
(PEMPHIGUS etiol)

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1. B. N. BELYAYEVA

2. USSR (600)

4. Botany - Study and Teaching

7. Development of the concept of plants as complete organisms. Est. v. shkole no. 1 1953.

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

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

BELYAYEVA, B.K., Cand Tech Sci -- (diss) "Study of construction solutions for ~~covering works~~ roofing official." Kiev, 1958, 17 pp with graphs (Acad of Construction and Architecture UkSSR. Sci Res Inst of Construction Materials and ~~Manufacture~~ Products) 150 copies (KL, 42-58, 115)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

SUKYASYAN, G.V.; DZHAVADYAN, N.S.; NOVIKOVA, M.N.; BELYAYEVA, B.F.; PROBATOVA, N.A.; SHITIKOVA, M.G.

Study of the effect of transfusion of polyvinylpyrrolidone on the course of acute radiation sickness. Probl.gemat. i perel. krovi 4 no.3:48-55 Mr '59. (MIRA 12:6)

1. Iz TSentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (dir. - deystvitel'nyy chlen AMN SSSR prof.A.A.Bagdasarov) Ministerstva zdravookhraneniya SSSR.

(ROENTGEN RAYS, inj. eff.
radiation sickness, eff. of polyvinylpyrrolidone transfusion in animals (Rus))

(POLYVINYLPYRROLIDONE, eff.
intravenous admin., on acute radiation sickness in animals (Rus))

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21(4); 17(0) PHASE I BOOK EXPLOITATION SOV/2808

International Conference on the Peaceful Uses of Atomic Energy. 2d, Geneva, 1958

Doklady sovetskikh uchenykh; radiobiologiya i radiatsionnaya meditsina (Reports of Soviet Scientists; Radiobiology and Radiation Medicine) Moscow, Izd-vo Glav. upr. po ispol'zovaniyu atomnoy energii pri Sovete Ministrov SSSR, 1959. 429 p. 8,000 copies printed. (Series: Vtoraya Mezhdunarodnaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii. Trudy, tom 5)

General Ed.: A.V. Lebedinskiy, Corresponding Member, USSR Academy of Medical Sciences; Ed.: Z.S. Shirokova; Tech. Ed.: Ye.I. Mazel'.

PURPOSE: This book is intended for physicians, scientists, and engineers as well as for professors and students at vtuzes where radiobiology and radiation medicine are taught.

COVERAGE: This is Volume 5 of a 6-volume set of reports delivered by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy, held on September 1-13, 1958, in Geneva. Volume 5 contains 32 reports edited by Candidates of Medical Sciences S.V. Levinskiy and V.V. Sedov. The reports cover problems of the biological effects of ionizing radiation, future consequences of radiation in small doses, genetic effects of radiation, treatment of radiation sickness, uses of radioactive isotopes in medical and biological research, uses of atomic energy for diagnostic and therapeutic purposes, soil absorption of uranium fission products, their intake by plants, and their storage in plants and foodstuffs. References accompany each report.

Reports of Soviet Scientists (Cont.) SOV/2808

Sapta, I.F. The Acetylating Function of the Coenzyme A System in Radiation Sickness (Report No. 2239) 160

Meyzel', M.N., E.D. Gal'tsova, G.A. Medvedeva, N.A. Pomoshchnikova, L.A. Seliverstova, and M.N. Shal'nova. Effect of Ionizing Radiation and of Radiomimetic Substances on the Microbe Cell (Report No. 2320) 167

Klimpakaya, N.N., and V.V. Shikhodyrov. Local Tests to Show the State of Homosensitization and Autosensitization of an Irradiated Organism (Report No. 2073) 180

Bagdasarov, A.A., F.E. Vinograd-Finkel', M.O. Raushenbakh, M.P. Bogoyavlenskaya, K.I. Rodina, E.F. Belyayeva, G.M. Abdullayev, and N.Ya. Lagutina. Experience in Treating Radiation Sickness With Leukocyte and Thrombocyte Substance (Report No. 2238) 188

Istomina, A.G., and L.B. Keirim-Markus. Experiments to Determine Maximum Permissible Thermal Neutron Flux (Report No. 2078) 196

Gopienskiy, D.E., and T.I. Ivanenko. Isotopic Method in Studying the Hormone Effect on Metabolism in Osseous Tissue (Report No. 2072) 205

Card 4/7

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BAGDASAROV, A.A., prof.; RAUSHENBAKH, M.O., prof.; ABDULLAYEV, G.M.; BELYAYEVA, B.F.; LAGUTINA, N.Ya.

Treatment of acute radiation sickness with concentrated thrombocytes. Probl.gemat. i perel.krovi 4 no.8:3-7 Ag '59. (MIRA 13:1)

1. Iz TSentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Bagdasarov) Ministerstva zdravookhraneniya SSSR. 2. Deystvitel'nyy chlen AMN SSSR (for Bagdasarov).

(BLOOD TRANSFUSION)
(RADIATION INJURY ther.)

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BELYAYEVA, B.F.

BAGDASAROV, A. A., VINOGRADOV-FINKEL, F. K., RAUSHENBAKH, M. O., BOGOYAVLENSKAYA, M. P., RODINA, R. I., BELYAYEVA, B. F., ABDULLAYEV, G. M. and LAGUTINA, N. Y.

"Experience of Treatment and Prophylaxis of Radiation Disease with Leucocyte and Thrombocyte Masses."

paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sep 58.

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T-15

USSR/Human and Animal Physiology (Normal and Pathological).
Effects of Physical Factors. Ionizing Radiation.

Abs Jour : Ref Zhur - Biol., No 11, 1958, 51439

Author : Shamshina, Ye.V.; Nikolayeva, N.V., Delyayeva, D.F.

Inst : -

Title : Regeneration Processes of Bone Marrow Hematogenesis in Acute Radiation Sickness.

Orig Pub : Probl. gematol. i perelivaniya krovi, 1957, 2, No 2, 13-17, 63

Abstract : The role of red and white bone marrow markings in processes of hematogenetic regeneration were analysed. Functional investigation data of smears from specimen obtained through a sternal puncture of 75 dogs, who were subjected to general roentgen irradiation with a 600 r dosage (and subsequent therapy) were used. The processes were directly connected with the functional state of erythropoiesis. It is to be assumed that restoration of active

Card 1/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

USSR/Human and Animal Physiology. Blood. Blood Transfusions and Blood Substitutes. T-4

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55462.

of 1-3 days. At the end of the third and the beginning of the fourth week after irradiation, the leukocyte count increased basically, usually at the expense of granulocytes. During the second month, it was completely restored, and at the same time the bone hematosis was normalized. In chronic RS, the infusion of LM contributed to an increase of the leukocyte count to 2,000-4,000 per 1 mm3 at the end of the treatment. In the majority of the cases the number of granulocytes and thrombocytes increased simultaneously. Thus, LM transfusions are especially useful during the periods of intensified hemolysis when blood transfusions are contraindicated. The RS treatment must be complex and individualized.

Card : 3/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

USSR/Human and Animal Physiology. Blood. Blood Transfusions and Blood Substitutes. T-4

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55462.

blood and of E. Early transfusions of (I) partly reduced the development of hemolysis. Thus, deep anemia did not develop in the majority of the dogs. Fractional transfusions of the protein solution (II) partly prevented the development of a hemorrhagic syndrome and of bone marrow aplasia. Such transfusions also improved the activities of the heart and of the vessels. In acute RS the administration of a leukocytic mass (LM) of cationitic blood did not have any therapeutic effect. Combined, however, with the (I) and (II) transfusions, it increased the survival rate. Infusions were begun when a state of deep leukopenia existed, and they were given 10-11 times daily, or with an interval

Card : 2/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

USSR/Human and Animal Physiology. Blood. Blood Transfusions and Blood Substitutes. T-4

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55462.

Author : Bagdasarov, A.A., Belyayeva, D.F., Rogacheva, L.S.
Inst :
Title : Hemotherapy in Radiation Sickness.

Orig Pub: Med. radiologiya, 1956, 1, No 5, 45-50.

Abstract: Dogs (54) were subjected to X-Ray irradiation, which was given in a dose of 600 r. Blood and erythrocyte (E) transfusions on the 5-15 day of acute radiation sickness (RS), intensified the decay of E and made the development of hemorrhagic diathesis more acute. Transfusions of the protein solution of TsOLIPK [?] No 1 (I), combined with a complex therapy made it possible to sharply reduce the amounts of transfused

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

BELYAEVA, A. E.

May 1947

USSR/Explosions - Measurements
Explosions - Pressure

"The Relationship Between the Pressure and the Speed of Burning of Explosives," A. F. Belyaev, A. E. Belyaeva, 3 pp

"Doklady Akademii Nauk SSSR" Vol LVI, No 5

Tables and graph of results.

PA 9T52

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BELYAYEVA, A.F.

CA

23

Normal velocity and character of burning of some primary explosives. A. F. Belyaev and A. F. Belyaeva. *Compt. rend. acad. sci. U.R.S.S.* **52**, 503-5(1946)(in English); cf. *C.A.* **37**, 2183[9]. At 1 atm. pressure highly compressed cylinders of Hg fulminate (I), trinitrotriazidobenzene (II), tricycloacetone peroxide, diazodinitrophenol, and K picrate have a "burning" rate of 1.55, 0.65, 0.95, 2.15, and 1.50 cm./sec., resp. Pb styphnate (III) exploded instead of burning but a 40% mixt. of III with talcum exhibited a rate of 14.5 cm./sec. A similar mixt. of I and talcum showed a rate of 0.55 cm./sec. At low pressure (10-22 mm. Hg) the character of the burning varied with the substance except that II still burned with a stable flame. E. O. Wiig

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

2

BELYAYEVA, A. Ye.

The combustion of mercury fulminate. A. F. Belyaev and A. E. Belyaeva (Inst. Chem. Phys., Acad. Sci. U.S.S.R., Moscow). *J. Phys. Chem.* (U.S.S.R.) **20**, 1381-9 (1946) (in Russian). $Hg(ONC)_2$ compressed to d. 3.8 burns when ignited instead of exploding. The rate of combustion, which at low pressures is not accompanied by a flame, can be measured by photographing $Hg(ONC)_2$ tablets at definite time intervals. At 15°, the linear rate of the consumption of a tablet is $l = A + bp$. Here p is the pressure above the tablet. It is greater than the gas pressure before the ignition because the products of combustion require time to spread over the whole vessel. At very small initial pressures the addtl. pressure is about 40 mm. Hg so that the combustion occurs at this p whatever the original degree of vacuum. If p is in kg. per sq. cm. and l is in cm./sec., $A = 0.40$ and $b = 1.10$ between $p = 40$ and 700 mm. Hg. The existence of the const. A presumably shows that some combustion takes place also in the pores of the tablet and that the gas pressure within these pores is about 300 mm. Hg. The values of A and b increase when the temp. before ignition increases, at 105° they are about 50% greater than at 16°. The temp. of the surface of the burning tablet is about 500°. The results are discussed. I. J. Bikerman

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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CA BELYAYEVA, A.Ye.

24

Influence of the envelope of the charge on the stability of the detonation. A. F. Belyaev and A. E. Belyaeva. *Doklady Akad. Nauk S.S.S.R.* 50, 299-301(1945).—

The stability (crit. point) of detonation of an explosive is approx. the same whatever may be the nature of the inert material composing the envelope (casing) of the charge, provided that the masses (weights) of the envelopes are the same; a casing of Fe having the same diam. and the same wall thickness as a casing of Pb has the weaker effect on the point of detonation and velocity of the explosion. The foregoing applies only to casings that are easily shattered, and not to massive walls of very strong materials, as steel.

O. W. Willcox

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BELYAYEVA, A. Ye.

CA

24

Relation between the limiting density of explosives and the diameter of the charge. A. F. Belyaev and A. E. Belyaeva. *Doklady Akad. Nauk S.S.S.R.* 50, 295-7 (1945).—Increasing the diam. of the charge from 11 to 62.5 mm. increased the crit. d. (of detonation) of mixts. of peat flour and NH_4NO_3 from 0.7 to 1.22, depending on fineness of grinding. The greater the proportion of peat and the coarser the grinding the lower is the crit. d. When in an 80/20 mixt. of trotyl and amatol a part of the trotyl was substituted by peat while the O balance was obtained, the heat effect changed little and the change in the relation between crit. d. and diam. was analogous to that in the preceding series. With increase of the percentage of trotyl the crit. d. increased rapidly with the diam.

O. W. Wilcox

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

BELYAYEVA, A.YE.

Burning of mercury fulminate at low pressures. A. F. Belyaev and A. E. Beljaeva (*Compt. rend. Acad. Sci. U.R.S.S.*, 1941, **33**, 41–44).—The burning of Hg fulminate at pressures from 760 mm. down to 2–3 mm. has been investigated. The brightness of the flame decreases considerably as the pressure is reduced, and at 8 mm. it is scarcely visible. The velocity of combustion, however, is practically unaltered by pressure. At 20 mm. the vol. of gas produced in the combustion is only 15–20% of that expected if combustion had been complete, and there is a considerable deposit of Hg fulminate contaminated with Hg. An explanation of the phenomena is advanced. A. J. M.

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BELYAYEVA, A. Ya., author of "Relation of sulfadine urinary secretion to temperature conditions."

SO: Works of the Turkmen Sci Res Skin-Venerol Inst, Vol II, 1947, p 178-9, Unclas oh

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

BELYAYEVA, Anna Vsil'yevna, istorik-etnograf narodov Severa; STEBAKOVA, L.N., redaktor; STANKEVICH, A.A., tekhnicheskiy redaktor

[Russians in the Far North; historical and geographical sketch of Magadan Province] Russkie na Krainem Severe; istoriko-geograficheskii ocherk Magadanskoi oblasti. Magadan, Obl.kn-vo, 1955. 71 p.
(Magadan Province--History) (MLRA 9:12)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

BELYAYEVA, A.T.; NAMAZOVA, A.A.

Significance of vectorcardiography in the evaluation of ventricular hypertrophy in patients with a defect of the interventricular septum. Sov. med. 28 no.9:10-17 S '65. (MIRA 18:9)

1. Institut klinicheskoy i eksperimental'noy khirurgii (dir. - deystvitel'nyy chlen AMN SSSR prof. B.V.Petrovskiy) Ministerstva zdravookhraneniya RSFSR i 1-ya klinika starshego detskogo vozrasta (zav. - deystvitel'nyy chlen AMN SSSR prof. O.D.Sokolova-Ponomareva) Instituta pediatrii (dir. - dotsent M.Ya.Studenikin) AMN SSSR, Moskva.

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TSITSIN, N.V., akademik; CHERKASSKIY, Ye.S.; BUSHCHIK, T.N.; SHMAL'KO, V.F.; LYUDOVA, G.L.; KILIMNIK, Ye.Ye.; BELYAYEVA, A.S.; Prinimali uchastiye: AZIYASHVILI, L.N.; ANTONOVA, I.I.; VOLKOVA, A.A.; DOBROCHINSKAYA, I.B.; MIROSHNICHENKO, O.N.; YUZHAKOVA, N.P.

New data on the control of cabbage flies (Chortophila brassicae Bouché and Chortophila floralis Fall.). Dokl.AN SSSR 144 no.2:457-460 My '62. (MIRA 15:5)

1. Glavnyy botanicheskiy sad AN SSSR, Opytno-pokazatel'nyy sovkhoz im. Mossoveta i Sovkhoz im. A.M.Gor'kogo.
(Cabbage—Diseases and pests)

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BELYAYEVA, A.S., agronom; KALMYKOVA, A.M., agronom

Protecting vegetable crops in greenhouses on the M. Gor'kii State Farm. Zashch. rast. ot vred. i bol. 7 no.10:4-7 O '62. (MIRA 16:6)

1. Sovkhoz imeni M. Gor'kogo.
(Vegetable gardening)
(Spraying and dusting in agriculture)
(Greenhouse management)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

TSITSIN, N.V., akademik; CHERKASSKIY, Ye.S., prof.; BUSHCHIK, T.N., kand. biolog.nauk; SHMAL'KO, V.F., kand.sel'skokhoz.nauk; LYADOVA, G.L., agronom; KILIMNIK, Ye.Ye., agronom; BELYAYEVA, A.S., agronom

Preparation for controlling the cabbage maggot. Zashch. rast. ot vred. i bol. 7 no.7:33-34 Jl '62. (MIRA 15:11)

1. Glavnyy botanicheskiy sad AN SSSR. Oporno-pokazatel'nyy sovkhoz imeni Mossoveta i Sovkhoz imeni Gor'kogo.
(Moscow Province--Cabbage maggot--Extermination)
(Insecticides)

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Latest about the struggle against ... S/020/62/144/002/028/028
B144/B101

ASSOCIATION: Glavnyy botanicheskiy sad Akademii nauk SSSR (Main Botanical Garden Academy of Sciences USSR); Opytno-pokazatel'nyy sovkhoz im. Mossoveta (Experimental and Model Sovkhoz imeni Mossovet); Sovkhoz im. A. M. Gor'kogo (Sovkhoz imeni A. M. Gor'kiy)

SUBMITTED: February 9, 1962

Card 3/3

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

S/020/62/144/002/020/028
B144/B101

Latest about the struggle against ....

which reduced considerably the consumption. Treatment with IFRD was carried out as follows by: immersing the root before planting in 0.5, 1, and 2 % suspensions for 1-3 min; putting into peat humus pots (250, 300, 350, and 500 g per 10 kg of peat mixture); placing in the planting holes (10, 20, 50 g per hole); sprinkling the root with 50 cm^3 of 3, 5, and 10 % suspension; dusting the collum (1-6 g). The latter method was the most efficient. Similar results were obtained by sprinkling with 50 cm^3 of 10 % IFRD suspension, a method requiring no additional work. Considerable yield increases (2-24 tons per ha) were attained for several varieties of cauliflower and head cabbage (no. 1, Chinese, and 'Slava' cabbage) by one or two dustings with 3-6 g of IFRD after initial or massive oviposition, respectively, and by abundant, additional sprinkling to guarantee a fast penetration of the liquid. Plant and fruit were not unfavorably affected. IFRD residues in the cabbage were not found by the Sanitarno-epidemiologicheskoy stantsiya Moskvy (Moscow Sanitation Epidemiological Station). IFRD is harmless to workers, and not inferior in efficiency to expensive organochlorine compounds. There are 2 tables.

Card 2/3

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BELYAYEVA, A.S.

S/020/62/144/002/026/026
B144/B101

AUTHORS: Tsitsin, N. V., Academician, Cherkasskiy, Ye. S., Bushchik, T. N., Shmal'ko, V. F., Lyadova, G. L., Kilimnik, Ye. Ye., and Belyayeva, A. S.

TITLE: Latest about the struggle against cabbage maggots (Chortophila brassicae Bouché and Ch. floralis Fall.)

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 2, 1962, 457 - 460

TEXT: A cheap insectofungicidal repellent dust ИФРД (IFRD) was prepared from by-products of the production of activated creolin (AC) and hexachloro cyclohexane (HCCH) by mixing with peat or other fillers. In 1960 excellent results were obtained in small-scale tests by dusting cauliflower, with 10-12 g of coarse-grained peat creolin dust per plant (AC - peat mixture of 1 : 3). Oviposition before the test, damage to roots and number of maggots during the crop were observed. One treatment was sufficient for initial oviposition (single eggs on 4-8 % of the plants); two dustings were applied at 14-day interval with massive oviposition (on 74.7 % of the plants). A finer-grained preparation was used in 1961,

Card 1/3

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BELYAYEVA, A.S., agronom-entomolog

Chemical methods of treating vegetable crops and the sanitary and hygienic evaluation of these methods. Zashch.rast.ot vred.i bol. 4 no.3:32-34 My-Je '59. (MIRA 13:4)

1. Sovkhoz imeni Gor'kogo, Moskovskoy oblasti.
(Vegetables--Diseases and pests) (Insecticides)
(Fungicides)

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BELYAYEVA, A.S.

BELYAYEVA, A.S.

"Control of Pests and Diseases of Vegetable Crops"
Sad i Ogorod, No. 3, March 1956

Full trans in Trans No. A-741, Microfilm No. 9006535

Sovkhoz imeni M. Gor'kogo, Moscow suburb

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DELAYED VOL. I

[illegible] (Compendium of Measures [illegible] Combating the Sun [illegible] Cabinet No. [illegible] [illegible] will be [illegible] [illegible] [illegible]

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

L 07487-67

ACC NR: AP6035843 (A,N) SOURCE CODE: UR/0413/66/000/020/0054/0054

INVENTOR: Sorkin, F. V.; Belyayeva, A. P.

47
13

ORG: none

TITLE: Electroluminescent symbol indicator with variable glow color. Class 21, No. 187080

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 54

TOPIC TAGS: electroluminescence, visible light, electronic circuit

ABSTRACT: An Author Certificate has been issued for an electroluminescent symbol indicator with variable glow color. Two electrodes are used to control the glow color of the reproduced symbols: 1) a raster screen formed from alternating luminophor strips that have different glow colors and form two comb-shaped electrode systems, and 2) conducting symbol plates that form different alphanumeric combinations.

SUB CODE: 09/ SUBM DATE: 17Jan61/ ATD PRESS: 5104

Card 1/1/mle UDC: 621.397.132

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

STEPNOVA, G.M., KOVALEVSKIY, [illegible]

Esters and esters of [illegible]ane- [illegible] acid.
Zhur. org. khim. [illegible] (1)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

L 4928-66 EWT(1)/EWA(j)/EWT(m)/EWA(b)-2 RO/GS/RM

ACC NR: AT5026043 SOURCE CODE: UR/0000/65/000/000/0300/0302

AUTHOR: Kulev, L.P. (Deceased); Gireva, R.N.; Kovalenok, A.V.; Belyayeva, A.P.

ORG: Tomsk Polytechnic Institute imeni S.M. Kirov (Tomskiy politekhnicheskiy institut); Tomsk State University (Tomskiy gosudarstvennyy universitet)

TITLE: Insecticide activity of esters of 9-fluorenone-4-carboxylic acid and their oximes

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Biologicheski aktivnyye soyedineniya (Biologically active compounds). Moscow, Ivd-vo Nauka, 1965, 300-302

TOPIC TAGS: insecticide, organic oxime compound, keto carboxylic acid

ABSTRACT: Phenyl esters of 9-fluorenone-4-carboxylic acid were prepared by reacting the corresponding phenol with the acid in the presence of phosphoryl chloride. Chloro-substituted ethyl esters were obtained by catalytic esterification in the presence of anhydrous metal halides. Dimethylaminoethyl esters were obtained from the acid chloride and dimethylaminoethanol. The oximes were synthesized by treating the esters with hydroxylamine in an alkaline water-alcohol solution. Tests of the insecticide activity of the compounds obtained were carried out on the housefly and the rice weevil. 1-naphthyl and 2,4-dinitrophenyl esters, and oximes of 4-nitro-, 2,4-, and 2,6-dinitrophenyl esters were the most toxic compounds. It was noted that in many cases the substitution of an oxime group for the keto group increases the insecticide activity of a compound. Orig. art. has: 1 table.

SUB CODE: OB, OC, GO / SUBM DATE: 23Sep63 / ORIG REF: 003 / OTH REF: 003

Card 1/1 0901 1374

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

KULEV, L.P.; GIREVA, R.N.; BELYAYEVA, A.P.

Diphenic acid esters. Part 4: Monoaryl esters of diphenic acid and their insecticide activity. Izv. TPI 126:53-54 '64. (MIRA 18:7)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

SORKIN, F.V.; BELYAYEVA, A.P.; BORODIN, N.S.

Use of electroluminescence for designing sign indicators.
Izv. AN SSSR. Ser. fiz. 25 no.4:527-529 Ap '61. (MIRA 14:4)
(Electronic calculating machines—Input-output equipment)
(Luminescent substances)

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22184

Application of electroluminescence... S/048/61/025/004/033/048
B117/B212

eliminated. Sign indicators of this type can operate at a strong outside illumination (200 ÷ 500 lux). In order to test the service-life of EL indicators electroluminophors have been investigated in a solid dielectric (ЭП-096 (EP-096)). It has been found that moisture will play an important role during aging. A rapid brightness drop can be referred to an electrochemical change of the luminophor under the influence of an electric field and moisture. Tests have shown that in order to prolong the service-life of EL indicators they have to be sealed. Covering the luminescent side of the EL indicator with epoxyde compound will protect it against moisture. There are 2 figures and 4 references: 1 Soviet-bloc and 3 non-Soviet-bloc. The three references to English language publications read as follows: S. Roberts, J. Appl. Phys., 28, no. 2, 262 (1957); G. Diemer, H. Klasens, P. Zalm, Philips Techn. Rev., 19, no. 1 (1957); P. Zalm, G. Diemer, H. Klasens, Philips. Res. Repts. 9, 81 (1951).

Card 3/3

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22184
S/048/61/025/004/033/048
B117/B212

Application of electroluminescence...

metal electrodes: In a vacuum a copper coating will be applied to the EL coating in form of powder. Then, a 10 to 15 μ thick copper coating is electrodeposited. After this, a pressure method is used. This method makes it possible to provide EL indicators with durable metal electrodes made of a galvanic copper foil. Voltage is applied to them via soldered conductors. The method suggested is also suitable for making grooved and mosaic luminescent screens and other EL equipment. Tests of the service-life of EL elements have shown that the method suggested does not impair the aging characteristics. The principal criterion to distinguish the sign at the EL-sign indicator is the contrast between sign and background. The best results to increase the contrast can be attained by decreasing the coefficient ϱ of reflection for the sign board . Calculations show that the contrast will increase strongly at a constant outer illumination if ϱ is decreased. EL indicators with a small coefficient of reflection possess a thin ($25 \div 30\ \mu$) electroluminophor layer (mixed with plastic and nearly disappearing) which has been applied to an absorbing plastic layer colored with nigrosin. The application of sublimate phosphors is very promising. The method suggested has the advantage over light filters that not only the brightness of the background is decreased but also the halation is

Card 2/3

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22184

S/048/61/025/004/033/048
B117/B212

24,3500

AUTHORS: Sorkin, F. V., Belyayeva, A. P., and Borodin, N. S.

TITLE: Application of electroluminescence for the development of sign indicators

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 4, 1961, 527-529

TEXT: The present paper was read at the 9th Conference on Luminescence (crystal phosphors). It gives a report on the development of electroluminescence indicators (EL indicators). Green luminous electroluminophors ГИПХ (GIPKh) have been used: ZnS - 0.2% Cu, 0.05% Al. An EL sign indicator is a flat luminescent screen (condenser), one of its electrodes is a transparent conducting coating of SnO_2; the other electrode, a metal one, is made of a number of segments. These are produced by thermal vaporization of Al or Ag on a pattern (in a vacuum). If a voltage is applied to the common (transparent) electrode and to the corresponding segment they will start glowing. In order to assure a dependable indicator operation, a new method has been suggested for the production of

Card 1/3

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BELYAYEVA, A. P.

"Fast Method of Determining Sulfur in Coal and Coke," Zavod.Lab., 14, No.8, 1948

Metallurgical Factory im. Petrovskiy

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SHESTOPALOVA, N.M.; REYNGOL'D, V.N.; GAVRILOVSKAYA, I.N.; BELYAYEVA, A.P.; CHUMAKOV, M.P.

Electron microscopic study of the morphology and localization of Omsk hemorrhagic fever virus in cells of the infected tissue culture. Vop. virus. 10 no.4:425-430 Jl-Ag '65. (MIRA 18:8)

1. Institut poliomiyelita i virusnykh entsefalitov AMN SSSR, Moskva.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

TSUKER, M.B.; VORONINOVA, M.K.; LESHCHINSKAYA, Ye.V.; BELYAYEVA, A.P.; ANDREYEVA, A.S.

Problem of poliomyelitis-like diseases. Zhur. nevr. i psikh. 63 no.10:1472-1477 '63. (MIRA 17:5)

1. Institut poliomiyelita i virusnykh entsefalitov (dir. -prof. M.P. Chumakov) AMN SSSR, Moskva.

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BELYAYEVA, A. P.

BALAYAN, M.S.; BELYAEVA, A.P.; SEIBIL, V.B.

Use of the precipitin test in the diagnosis of infections caused by ECHO and Coxsackie viruses. Actavirol. 7 no.3:241-249 My '63.

1. Institute of Poliomyelitis and Viral Encephalitides, U.S.S.R. Academy of Medical Sciences, Moscow.
(ECHO VIRUSES) (ENTEROVIRUS INFECTIONS) (DIAGNOSIS)
(COXSACKIE VIRUS INFECTIONS) (PRECIPITIN TESTS)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

[illegible], A. P., CHUBAKOV, M. P., [illegible], YU. [illegible], LESHCHUTSKIY, S. V., TOVLISHVILI, T. P., LEVCHENKO, E. P., SHTEGA, [illegible], CHUMAKETS, M. A., LEONTIYEVA, G. A., GOLIKOV, K. E., [illegible], A. A.

"New data on the Tula fever with a renal syndrome, and the natural reservoirs of this infection." p. 124

Desyatoye soveshchaniye po parazitologicheskim problemam i prirodnoochagovym boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Science USSR and Academy of Sciences USSR, No. 1 254pp.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

BELYAYEVA, A. P.

"Study of Pathogenic Virus of Omsk Hemorrhagic Fever." (Dissertation for Degree of Candidate of Medical Sciences) Acad Med Sci USSR, Moscow, 1955

SO: M-1036 28 Mar 56

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BELYAYEVA, A. P.

USSR/Medicine - Q-Fever BELYAYEVA, A. P. FD 153

Card 1/1

Author : Chumakov, M. P.; Belyayeva, A. P.; Shifrin, I. A.; Khodukin, N. I.; and Lysunkina, V. A.

Title : The study of Q-fever in the USSR. I. Data on the Identification of Q-fever infections.

Periodical : Zhur. mikrobiol. epid. i immun. 5, 40-48, May 1954

Abstract : By preparing a highly active specific antigen of R. burnetti and using it to carry out complement fixation and agglutination reactions, Q-fever was detected in a number of oblasts in the USSR. Q-fever was also identified etiologically by isolating strains of R. burnetti from the blood of persons suffering from a typical fever, and from the ticks, Hyalomma anatolicum. The investigations are illustrated by 4 charts, a graph and a microphotograph. Many other persons working on Q-fever are mentioned, but no references are cited.

Institution :

Submitted : July 21, 1953. Presented at a scientific conference of the Institute of Virology of the Academy of Medical Sciences USSR, December 1, 1952.

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BELYAYEVA, A.P.

CHUMAKOV, M.P., A.P. BELYAYEVA, AND S.G. DROZDOVA

"On the Nature of the So-called Two-Wave Milk Fever and Its Connections with the Tick-Transmitted OGL (Omsk Hemorrhagic Fever), Tick (Spring-Summer) Encephalitis, and Scotch Tick Encephalitis of Sheep" by M.P. Chumakov, A.P. BELYAYEVA, and S.G.Drozdova.
W-31019, July 54, # 26 Oct 54

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A.P. [illegible]LYAYEVA

Sov/Cat 48

USSR/Medicine - Poliomyelitis
Medicine - Infection, Experimental

"Poliomyelitis; I, Disease in Monkeys, Caused by Moscow and Kiev Virus Strains," M.K. Voroshilova, M.P. Chumakov, A.P. Polyakova, T.A. Sharova, Sec of Microvirusses, Inst Of Neurol, Acad Med Sci USSR, 5 pp

"Nevropatol i Psikhiat" Vol XVII, No 5

Describes infection of monkeys with filtrates obtained from human poliomyelitis viruses with five diagrams, and two photographs. Submitted 2 April 48.

PA 23/49T85

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NEVMERZHITSKAYA, E.A.; BELYAYEVA, A.N.; POPROTSKAYA, V.A.; KUDRYAVTSEVA, N.A.

Studying the composition of gas from methane electrocracking.
Khim. prom. 41 no. 12:895-896 D '65 (MIRA 19:1)

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L 1964-66

ACCESSION NR: AP5021783

(hydrochloric acid) was introduced in portions, the condensation was carried out for 3 hr, then the resin was dried. The resins were used to prepare molded articles. Orig. art. has: 7 tables.

ASSOCIATION: VUKhIN

SUBMITTED: 00 ENCL: 00 SUB CODE: GC, MT

NO REF SOV: 001 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

L 1964-66 EWT(m)/EWP(j) RM

ACCESSION NR: AP5021783 UR/0068/65/000/008/0039/0042

668.74

44,55 44,55 44,55 25 B

AUTHOR: Novikov, Ye. G.; Aksenova, T. F.; Belyayeva, A. M.

TITLE: Preparation and properties of carbazole-phenol-formaldehyde resins 15,44,55

SOURCE: Koks i khimiya, no. 8, 1965, 39-42

TOPIC TAGS: carbazole, formolite resin, formaldehyde, heat resistant plastic

ABSTRACT: Hydrocarbon - phenol-formaldehyde resins (formolites) based on carbazole were synthesized in two steps: condensation of carbazole with formaldehyde in an alkaline medium produced the low-melting and reactive N-methylolcarbazole, and the latter was then condensed with formaldehyde in an acid medium. The conditions of preparation of N-methylolcarbazole were studied by ultraviolet spectroscopy. It was found that in order to obtain the formolite, the raw material used may be commercial carbazole with a concentration not below 85% containing no more than 3% phenanthrene. The synthesis of the carbazole-phenol-formaldehyde resins consisted in filling the reactor with 1 pt. by wt. of the formolite, 2 pts. by wt. of phenol, and formalin, the required amount of which was determined by preliminary analysis. The catalyst

Card 1/2

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DOTSENKO, T.K.; SURCHAKOV, A.V.; BELYAYEVA, A.M.; KOROTOVSKAYA, N.T.; GOLUBYATNIKOV, F.I.; KOZLOVA, M.F.

Use of new insecticides in controlling synanthropic flies in nonisolated sectors. Med.paraz.i paraz.bol. no.3:355-359 '62. (MIRA 15:9)

1. Iz Kuybyshevskogo nauchno-issledovatel'skogo instituta epidemiologii, mikrobiologii i gigiyeny (dir. K.P. Vasil'yev), Gorodskoy sanitarno-epidemiologicheskoy stantsii (glavnyy vrach A.A. Galaktionova, zav. parazitologicheskim otdelom N.T. Korotovskaya) i Gorodskoy dezinfektsionnoy stantsii (zav. M.F. Kozlova).

(FLIES--EXTERMINATION) (INSECTICIDES)

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ACC NR: AP6037000

tion spectrum and the anomalies in the luminescence spectrum of $RbMnF_3$ and $KMnF_3$ is discussed. It is deduced that the anomaly in the absorption spectrum, observed by the authors for the first time, can also be related to the ordering of the spins of the excited Mn^{++} ions. Particular attention is paid to the temperature dependence of the first band to appear with decreasing temperature (C_2), which exhibits an anomaly below 30K, and which is a magnon satellite of one of the original bands (C_1). Orig. art. has: 2 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 23May66/ ORIG REF: 004/ OTH REF: 008

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

ACC NR: AP6037000 (A, N) SOURCE CODE: UR/0181/66/008/011/3397/3400

AUTHOR: Antonov, A. V.; Belyayeva, A. I.; Yeremenko, V. V.

ORG: Physicotechnical Institute of Low Temperatures, AN UkrSSR, Khar'kov (Fiziko-tekhnicheskiy institut nizkikh temperatur AN UkrSSR)

TITLE: Low temperature anomaly in the absorption spectra of antiferromagnetic $RbMnF_3$ and $KMnF_3$

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3397-3400

TOPIC TAGS: absorption spectrum, antiferromagnetic material, Neel temperature, temperature dependence, low temperature research, line splitting, luminescence spectrum

ABSTRACT: This is a continuation of earlier work (FTT v. 6, 3646, 1964 and preceding) and is devoted to the C-group (~3900 Å) of bands in the absorption spectrum of antiferromagnetic $RbMnF_3$ (Neel temperature $T_N = 82K$) and $KMnF_3$ ($T_N = 88K$), whose structure becomes quite complicated at $T < T_N$. The measurement procedure was described earlier (FTT v. 6, 1967, 1964). Investigations were made at 4.2 - 200K. The absorption spectrum was photographed with a diffraction spectrograph (DFS-8) and then photometrized (MF-2 microphotometer). The results show that with decreasing temperature the number of bands in the C group increases from two to seven in the case of $RbMnF_3$ and six in the case of $KMnF_3$, in analogy with the splitting observed for other antiferromagnetic crystals. The temperature dependence of the most intense of the bands was also investigated and the connection between the anomalies in the absorp-

Card 1/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

L 40172-66

ACC NR: AP6020200

nature of band ν_1 has been confirmed by an analysis of its shape, temperature dependence of spectral position, and half-width. Orig. art. has: 5 figures, 1 formula, and 1 table. [Based on authors' abstract] [NT]

SUB CODE: 20/ SUBM DATE: 13Jan66/ ORIG REF: 002/ OTH REF: 005

Card 2/2 mcp

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600021-6

L 40172-66 EWT(1) IJP(c) GG/GW

ACC NR: AP6020200 SOURCE CODE: UR/0056/66/050/006/1472/1477

AUTHOR: Belyayeva, A. I.; Yeremenko, V. V.; Mikhaylov, N. N.; Pavlov, V. N.; Petrov, S. V.

ORG: Physicotechnical Institute of Low Temperatures, Academy of Sciences, Ukrainian SSR (Fiziko-tekhnicheskiy institut nizkikh temperatur Akademia nauk Ukrainskoy SSR); Institute of Physical Problems, Academy of Sciences, SSSR (Institut fizicheskikh problem Akademii nauk SSSR)

TITLE: Magnon and phonon excitation during light absorption in antiferromagnetic NiF_2

SOURCE: Zh Eksper i teor fiz, v. 50, no. 6, 1966, 1472-1477

TOPIC TAGS: magnon, phonon, magnon excitation, phonon excitation, light absorption, nickel fluoride, antiferromagnetic material, NICKEL COMPOUND, FLUORIDE, ABSORPTION SPECTRUM, ELECTRON TRANSITION, LIGHT EXCITATION

ABSTRACT: The structure of the $^3A_{2g} \rightarrow {}^1T_{2g}$ transition in the absorption spectrum of antiferromagnetic nickel fluoride at temperatures between 4.2 and 77K has been analyzed on the basis of experimental data on its vibrational frequencies. It has been shown that band ν_I = 20,622 cm^{-} and band ν_{II} = 20,717 cm^{-1} are due to electron-magnon transitions with the formation of one and two magnons, respectively, with maximum frequencies. The maximum frequency of the magnon ν_m = 100 cm^{-1}. The magnon

Card 1/2

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