"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAK-SHAK, B.A., kand. tekhn. nauk, dotsent

Criterion of the precision in the manufacture of machinery. Vest. mashinostr. 44 no.11:53-54 N '64 (MIRA 18:2)

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COUNTRY : USSR
CATEGORY : Pharmacology, Toxicology. Different Preparations

ABS. JOUR. : RZhBiol., No. 12 1958, No. 56779

AUTHOR : Muravskiy, R., Sakshevskiy, K.
INST. : -
TITLE : The Preparation of, and Certain Chemical and Pharmacological Properties of, Esterified Human Globin

ORIG. PUB. : Biokhimiya, 1957, Vol.22, No.5, 789-793

ABSTRACT : For the preparation of protein substitutes for plasma, the globin was isolated from the Hb of erythrocytes. Increases in its solubility and stability were achieved by esterification of the carboxyl groups of the protein with ethanolic or methanolic acid at room temperature. Electrometric titrations showed that the number of metaoxyl and ethoxyl groups depends on the time of esterification. The resulting carboxymethyl or carboxyetnyl globins possessed good solubility at pH 7.0, but were higaly toxic for mice, rabbits and cats, which evidently was due to the profound changes in the protein molecule.

Card: -- A.I.Bubinina
1/1

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSIMOV, NIKOLAI ALEKSANDROVICH

Maksimov, Nikolai Aleksandrovich Kratuk kurs po fiziologiia na rastenliata. 8. Prer. izd. Preveli ot ruski Tsv. Staikov (i dr.) (Sofiya) Zemizdat, 1952 581 p. (A brief course on the physiology of plants Tr. from the Russian)

SO: Monthly List of East European Accessions, L.C. Vol. 3, No. 1, Jan '54 Uncl.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSIN, A.M.

USSR/ Engineering - Machine tools

Card 1/1 : Pub. 128 - 2/31

Authors : Saksin, A. M.

Title : An experiment on incorporating automatic grinding machines in production lines

Periodical : Vest. mash. 10, 5 - 13, Oct 54

Abstract : The automatic grinding machines, Type 01S22, 02S32, 02S33, and 05S28 are described. The machines were produced by Special Design Bureau No. 6, for automatic grinding of ball and roller bearing races and plowshares. Diagrams; drawings; tables; illustrations.

Institution : ....

Submitted : ....

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

Yaroslavl'. Tekhnologicheskiy institut

Uchenyye Zapiski, Tom II (Scientific Notes, Vol. 3)
Yaroslavl'. [illegible] 500 copies printed.

Editorial Staff: A.I.Zaikina, Candidate of Historical Sciences; Docent M.N. Makarov, Candidate of Technical Sciences; Professor M.I. Farberov, Doctor of Technical Sciences;

Resp. Ed.: Professor Yu.S. Musabekov, Doctor of Chemical Sciences

Secretary-Scientist: B.F. Ustavshchikov, Candidate of Chemical Sciences

PURPOSE: This book is primarily intended for industrial chemists and technologists interested in the kinetics of chemical reactions and their related physical processes.

COVERAGE: The twenty-two articles of this collection deal mainly with industrial processes for the preparation of organic compounds, problems of heat physics and general mechanics related to these processes, and with industrial chemical equipment. No personalities are mentioned. References are given after each article.

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSIN, V. F. Cand Tech Sci

Dissertation; "Investigation of the Kinetics of the Convexsion Reaction of Carbon Monoxide."

16/6/50

Moscow Order of Lenin Chemical Technological Inst imeni D. I. Mendeleyev

SO Vecheryaya Moskva
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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSIN, V.F.; BUGROV, V.P.; ORLOV, N.A.

Oxalate complex of magnesium. Uch.zap.IArosl.tekhnol.inst. 2:73-80 '57. (MIRA 12:7)

(Oxalic acid) (Magnesium compounds)

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

5(2) SOV/156-59-1-18/54

AUTHOR: Saksin, V. F.

TITLE: The Composition and Stability of the Sulfate Complex of Zirconium(Sostav i ustoychivost' sul'fatnogo kompleksa tsirkoniya)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 75 - 79 (USSR)

ABSTRACT: It is known from publications that anion complexes of zirconium as well as positively charged complexes, e.g. $[ZrO(H_2O)(OH)]^+$ may be formed in a solution of sulfuric acid. In the present paper the formation of positive zirconyl complexes with an excess of ZrO^{2+} - ions is investigated. 1) The solubility of $BaSO_4$ in zirconyl nitrate at 20° and the composition of the bottom phase were investigated. 2) Zirconyl nitrate was titrated with a 0.05 molar Na_2SO_4 solution and the precipitate was analyzed. 3) The pH in this titration lye was measured; the pH was determined in

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solutions to which 0.2-n HNO_3 was added until the precipitate dissolved. 4) The solubility of $BaSO_4$ in KNO_3 solutions and KNO_3 solutions acidified with HNO_3 was investigated in order to investigate salt effects. The solubility of barium sulfate in zirconyl nitrate can neither be explained by salt effects nor by the influence of the free acid formed in the hydrolysis of zirconyl nitrate. It is a matter of formation of zirconyl complex salts which takes place according to the following equations:

$$1)\ BaSO_4 + ZrO^{2+} + nH_2O \rightleftarrows \left[ZrO(SO_4)H_2O)_n\right]^{o} + Ba^{2+}$$

$$2)\ BaSO_4 + 2ZrO^{2+} \rightleftarrows \left[(ZrO_2)SO_4\right]^{2+} + Ba^{2+}$$

Since a ZrO^{2+} excess was used, the dissolution of barium sulfate had to take place mainly according to equation 2

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(Table 1). The titration showed also that the precipitate dissolved in the zirconyl nitrate excess (Table 2). A dissolution of the precipitate in free nitric acid does not occur before a high acid concentration is attained. The complex ion has the formula $[(ZrO_2)SO_4]^{2+}$. With lower concentrations of zirconyl nitrate other complexes appear, e.g. the neutral $[ZrO(SO_4)(H_2O)_n]^0$. With still lower concentrations of zirconyl nitrate complex formation stops and zirconium is found in the bottom phase. The formation of anion complexes of the type $[Zr(SO_4)]^{4-2n}$ was not found. The absence of these complexes was indicated by the rapid decrease of the solubility of barium nitrate in zirconyl nitrate after the addition of nitric acid. Nitric acid suppresses the hydrolysis of zirconyl nitrate; tetravalent Zr ions are formed which obviously do not form complexes with SO_4^{2-} ions and therefore

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cannot dissolve barium sulfate. The computed instability constant $K_{\underline{n}} = 1.88 \cdot 10^{-9}$ maintained its value independent of the experimental conditions. A slight decrease of the value with a very low zirconyl nitrate concentration seems to be due to the formation of the neutral complex according to equation 1. There are 2 tables and 6 Soviet references.

ASSOCIATION: Kafedra neorganicheskoy i analiticheskoy khimii Yaroslavskogo tekhnologicheskogo instituta (Chair of Inorganic and Analytical Chemistry of the Yaroslavl' Technological Institute)

SUBMITTED: July 31, 1958

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

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A006/A001

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Translation from: Referativnyy zhurnal. Khimiya, 1960, No. 6, p. 125, # 21779

AUTHOR: Saksin, V.F.

TITLE: Composition and Stability of Oxalate Zirconium Complexes

PERIODICAL: Uch. Zap. Yaroslavsk. tekhnol. in-ta, 1959, Vol. 3, pp. 125-134

TEXT: The method of solubility was used to investigate the composition and stability of exalate Zr complexes originating in the solutions. (The author investigated solubility of $Zr(C_2O_4)_2 \cdot 2Zr(OH)_4$ (I) in aqueous solutions of $(NH_4)_2C_2O_4$ and $ZrO(NO_3)_2$). Simultaneously he investigated the electric conductance of aqueous solutions of $ZrO(NO_3)_2 + (NH_4)_2C_2O_4$ and determined the solubility of MgC_2O_4 in aqueous solutions of $ZrO(NO_3)_2$ at 20°C. It was established that at an excess of $C_2O_4^{2-}$ in comparison to ZrO^{2+}, $[ZrO(C_2O_4)(H_2O)_2]$ (II) and $[ZrO(C_2O_4)_2]^{2-}$ (III) were formed in the solutions; at an excess of ZrO^{2+} in comparison to $C_2O_4^{2-}$, a complex $[(ZrO)_2C_2O_4]^{2+}$ was formed (IV). The author determined the apparent constants of instability for II, III and IV, which were

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Composition and Stability of Oxalate Zirconium Complexes

found to amount to 3.46×10^{-6}, 2.12×10^{-8} and $\sim 3.27 \times 10^{-9}$, respectively. A dependence was found of the solubility (S) of I in aqueous solutions of $(NH_4)_2C_2O_4$ on the concentration (C) of $C_2O_4^{2-}$: $S = 0.0256\ C^{1/5} + 0.542\ C^{4/5}$.

Yu. Kharitonov

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSIN, V.F.

Determination of oxalates in the presence of chromium. Zav. lab. 26 no.5:546-547 '60. (MIRA 13:7)

1. Yaroslavskiy tekhnologicheskiy institut.
(Oxalates) (Chromium)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSIN, V.F.; SOBOLEVA, A.A.

Iodometric determining of indium. Khim. i khim. tekh. 1: 229-231 '62. (MIRA 17:2)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSIN, V.F.

Stability of chromium oxalate complexes. Khim. i khim. tekh. 1:233-238 '62. (MIRA 17:2)

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSIROV, Kh.

"At the international Organization of Radio broadcasting".

So. Radio, Vol. 8, p. 18, 1952

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSON, A.P. (gorod Chelyabinsk)

Chemistry meeting debating the topic "Alloys of non-ferrous metals." Khim. v shkole 10 no.2:57-60 Mr-Ap '55. (MLRA 8:7)
(Alloys)

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSON, A.R.

Work experience of students in the industry. Khim. v shkole 10 no.4: 61-66 Jl-Ag '55. (MLRA 8:9)
(Chemistry, Technical)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSON, A.R. (Chelyabinsk)

Industrial training of students in an electrode-wire plant. Khim.v shkole 11 no.4:62-65 Jl '56. (MLRA 9:9)
(Chelyabinsk--Industrial education) (Electrodes)

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

GLAZMAN, K.V., inzhener; SAKSON, K.V., inzhener.

Better utilization of yarn. Leg.prom. 15 no.9:45-47 S '55. (MLRA 9:1)

(Yarn) (Moscow--Knit goods industry)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

PETROV, D.A.; SAKSON, K.V., inzh.

Mechanization of the conveying of semifinished products and of the collection of hosiery manufacturing wastes. Tekst. prom. 21 no.10:68-70 O '61. (MIRA 14:10)

1. Glavnyy mekhanik moskovskoy chulochnoy fabriki imeni Baumana Mosgorsovnarkhoza (for Petrov).
(Hosiery industry)
(Pneumatic-tube transportation)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

TUMASHEVITS, V.F.[Tumasevic, V.]; SVIKIS, V.; KOLOTUKHINA, P.I.; DANEMANE, V.; ZIEMELE, I.; IL'INA, S.G.; KARKLINA, S.; SAKSONE, V.; LEVI, S., red.

[The lumbering and woodworking industry of the Baltic Economic Region; its condition and prospects for development] Lesopil'no-derevoobrabatyvaiushchaia promyshlennost' Pribaltiiskogo ekonomicheskogo raiona; sostoianie i perspektivy razvitiia. Riga, Izd-vo AN Latviiskoi SSR, 1964. 95 p. (MIRA 18:6)

1. Latvijas Padomju Socialistiskas Republikas Zinatnu Akademija. Ekonomikas instituts.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, Grigoriy Mikhaylovich; KOROLEV, A.A., prof., red.; IVANOV, N.F., red.; KIRICHENKO, L.V., red.-leksik.; PLAKSHE, L.Yu., tekhn. red.

[English-Russian dictionary on metal rolling] Anglo-russkii slovar' po prokatke metallov. Moskva, Glav. red. inostr. nauchno-tekhn. slovarei Fizmatgiza, 1963. 181 p. (MIRA 17:2)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, L.E.

Mechanizing manual work. Mashinostroitel' no.1:25-27 N '56.
(MIRA 12:1)

1. Zavod "Krasnyy proletariy."
(Factory management)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, L.E.; ABDEYEVA, N.F., red.

[Traditions should be maintained] Traditsiiam stavat'sia v stroiu. Moskva, Sovetskaia Rossiia, 1964. 94 p.
(MIRA 17:8)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV L. G.

27 27

V. Blowing iron with oxygen in the tank of a cupola. A. P. Perov and L. G. Saksonov. *Litejnoe Proizvodstvo* 1958, No. 1, 24-5.—Temp. of iron in the tank of a cupola is raised from 1330 to 1410° by blowing O through a 5-mm. Cu pipe imbedded in the bottom of the tank. During cupola operation, the pipe is held open by blowing air through it, the latter being replaced with O when heating is required.

J. D. Gat.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

AUTHORS: Saksonov, L.G., Perov, A.P. SOV/128-58-11-15/24

TITLE: The Surface Strengthening of Cores for Ingot-Molds (Poverkhnostnoye uprochneniye sterzhney dlya izlozhnits)

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 11, p 28 (USSR)

ABSTRACT: It was stated that the surface warping of ingot molds was caused by the low mechanical strength of the core surface layer. The experiences of the "Stankolit" plant were used in a method of surface strengthening of ingot-mold cores with "ZIS-3" strengthener, composed of 25% petroleum bitumen, 55% shale tar and 20% white spirit. Application of the strengthener caused the formation of a 2 - 3 mm thick crust which is more resistant than the core. The use of the new material reduced the amount of spoilage from 2.05 to 0.23 %.

1. Molding materials--Mechanical properties 2. Surfaces --Preparation

Card 1/1

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, L.G.; DODIN, Ya.L.; SOKOLOVSKIY, L.O.; TORBOCHKIN, L.I.

Exothermic heating of mold risers for steel alloy ingots. Lit. proizv. no.9:12 S '62. (MIRA 15:11)
(Steel ingots) (Risers (Founding))

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

S/130/63/000/002/002/002
A006/A101

AUTHORS: Burylichev, G. I., Kudel'kin, V. P., Saksonov, L. G.

TITLE: Using lightened molds

PERIODICAL: Metallurg, no. 2, 1963, 21

TEXT: At the "Elektrostal'" Plant new molds with constant along the height wall thickness are now being used for casting square and cylindrical 500 kg ingots of various steel grades. The external contours of the molds were altered and reinforcing crimps were mounted at the mold top. As a result premature cracks in the upper section of the walls were prevented. The new molds were stable in syphon- and top-casting. In the latter case cast-iron consumption is reduced. The new design reduces the weight of each mold from 735 to 600 kgs. The stability of round and square molds increased by 12 and 24% respectively. Changes in the mold design did not affect the quality of ingots and the steel. The consumption of the molds is reduced from 35 to 23 for square and from 35 to 26 kg/t of steel for round ingots. There is 1 figure.

ASSOCIATION: Elektrostal' Plant

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

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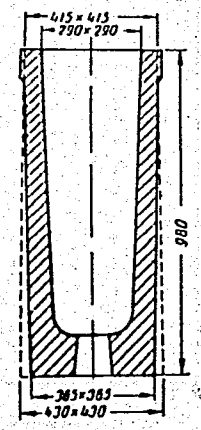
A006/A101

Using lightened molds

Schematic diagram of a lightened mold for 500 kg ingots (the outline of a conventional mold is dashed)



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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

BURYLICHEV, G.I.; KUDEL'KIN, V.P.; SAKSONOV, L.G.

Use of lightweight ingot molds. Metallurg 8 no.2:21 F '63. (MIRA 16:2)

1. Zavod "Elektrostal'".
(Ingot mills)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

DODIN, Yakov L'vovich[deceased]; SAKSONOV, Lev Geselevich; SOKOLOVSKIY, Lev Osipovich; TORBOCHKIN, Lev Isaakovich; MITIN, V.I., red.; VAYNSHTEYN, Ye.B., tekhn. red.

[Molds for alloyed steel ingots] Izlozhnitsy dlia slitkov legirovannykh stalei. Moskva, Metallurgizdat, 1963. 191 p. (MIRA 16:5)

(Ingot molds) (Steel ingots)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SOV/137-57-10-18721

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 38 (USSR)

AUTHOR: Saksonov, N.M.

TITLE: New Machines Produced by the Irkutsk Heavy Machinery Plant for Nonferrous and Ferrous Metallurgy (Novyye mashiny Irkutskogo zavoda tyazhelogo mashinostroyenya dlya tsvetnoy i chernoy metallurgii)

PERIODICAL: V sb.: Novoye v konstruirovanii tyazh. mashin. Moscow, Mashgiz, 1956, pp 210-220

ABSTRACT: In 1956 this plant was scheduled to develop a production plant for the modernization of dredges of 210-liter bucket capacity to save precious metals and minerals by means of 1) jiggers and 2) worm-type separators. In 1955 the plant manufactured 3 draw benches of 3, 8, and 30-t pull, respectively, for the drawing (D) of Al tubing of up to 20, 35, and 160 mm diameter, respectively, and D rates of 25 and 15 m/min; a draw-bench for rod material and collector buses of 15-t D pull, strip cross section of 150x10 mm, and D rate of 12 m/min; 3 mills for D steel tubing of 38-83 mm diam, with 30-t pull and a 48 m/min D rate. In 1956 the plant is to manufacture 24 draw

Card 1/2

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SOV/137-57-10-18721

New Machines Produced by the Irkutsk Heavy Machinery Plant (cont.)

benches, including a tube-drawing bench with 120-t pull. The plant will produce, for the first time in the USSR, mills with induction heating to D tubing from Ti alloys (8 and 30-t pull). A new and complex job is under way, namely, a hot R mill for the production of tubing by expanding, wherein the diameters of the tubes will be 425-465 mm prior to expansion and 529-820 mm afterward, the wall thicknesses (respectively) being 12-25 and 8-15 mm, the tube length being 13.5 and 12.5 m. A major place in the inventory of the plant is ore-dressing equipment (classifiers, thickeners). In recent years a number of casting machines have been designed and manufactured at this plant, including turret-type machines for copper anode wirebars and pig lead, and conveyer-type machines for pig iron, bronze, Al, and slag. Designs have been developed for standard blast-furnace stove equipment whereby to convert blast furnaces to higher blast pressures; gas burners have been made to be operated by alternating flow, and this plant has been the site of the first design of a 48,000 m^3/hr gas burner, which has also been manufactured. Preparations are now under way for a design project for the separation of the burners from the stoves proper by means of mechanisms which would make it possible to automate that operation.

Card 2/2 L.S.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P. P.

"Apparatus for Signal Light Indication of Perfusate Drops," V.S. Genes, B. L. Konson, A. D. Panashchenko, and P. P. Saksonov. Farmakol. i Toksikol., 9, No. 3, 50-60, 1946.

To visualize the fall os perfusate drops for a lecture audience, a thin metal plate is arranged to close an elec. circuit and flash a light as each drop falls. The app. is simple and easily portable. Julian F. Smith

Chair Pharmacology, Military Med. acad. im. Kirov

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P. P.

"Pharmacologic Characteristics of Isotebanin," Farmakol. i Toxicol., 9, No. 4, -1946- Lt. Col. Med. Service. Chair Pharmacology, Mil. Med. Acad. im. S. M. Kirova, -1946-.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P. P.

"Influence of High and Low Temperatures on the Stability of Lobelin Solution," Farmakol. i Toxicol., 9, No. 3, -1946- Lt. Col. Med. Service; Establishment X, Ugpel, -1946-.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P. P.

PROCESSES AND PROPERTIES INDEX

Pharmacology of methylanabasine. P. P. Saksonov. *Farmakol. i Toksikol.* 9, No. 5, 13-23(1946).—Observed doses of methylanabasine (I), in mg./kg., given intravenously to cerebrectomized cats, were: min. effective, 0.15; optimum, 2.5–4; toxic, 5–6; min. lethal, 7; abs. lethal, 15; mean lethal, LD_{50}, 11.83; LD for sound cats, subcutaneously, 20. Mice are much more sensitive (LD_{50} 0.081). In cerebrectomized morphinized cats and morphinized rabbits I stimulated respiration, but much less than in absence of the narcotic. Respiratory stimulation and vasopressor effect are especially favorable under urethan-hexenal narcosis. Test data rate I at least equal to lobeline and peracetin as a respiratory analeptic. Recommended clinical doses are 0.01–0.02 (mg./kg.?) injected subcutaneously or 0.005–0.01 intravenously. Stored 6 months at room temp. in the dark, aq. 1% solns. of I increased in activity and toxicity, probably by formation of anabasine or other compds. When boiled 10 min. over an open flame, fresh 1% I lost all its activity; but sterilizing in an autoclave (121°, 45 min.), or 10 min. on a boiling waterbath, or 30 min. at 75° on 3 successive days, did not impair activity. Expts. with isolated frog and rabbit hearts, and with rabbit smooth (intestinal) muscle are also reported.

Julian F. Smith

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, K.P.

CA

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PROCESSES AND PROPERTIES INDEX

Joint action of methylanabasine and caffeine. P. P. Saksonov. *Farmakol. i Toksikol.* 9, No. 5, 24-33(1946).—Methylanabasine (I) in 1% soln., caffeine-BzONa (II) in 10% soln. and their mixts. (III) were tested for effects on respiration and blood pressure in cerebrectomized cats and morphinized rabbits; for toxicity to mice; for action on isolated frog and rabbit hearts, and on smooth (intestinal) rabbit muscle. Respiratory stimulation is apparent with I at 0.15 mg./kg., reaches a max. at 1-6 mg./kg., then decreases. With II at 0.3-500 mg./kg. respiratory stimulation is accompanied by a drop in blood pressure, especially with medium and large doses. With III there is no rise in respiratory stimulation; sometimes there is antagonism, showing in vol., depth or rhythm. Blood pressure always drops. Antagonism also appears in effects on smooth muscle. In morphinized rabbits III has less respiratory activity than I or II. Both I and III lower blood pressure in spinal cats and in cats with severed central nervous system. Clinically, I has beneficial respiratory and cardiovascular effects, in doses of 0.015-0.02 (mg./kg. ?), when given subcutaneously; III has no merit over I or II alone.

Julian F. Smith

Lt. Col. Med. Sci.
Jr. Instructor, Chair Pharmacology, Mil. Med. Acad. im. Kirov

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Sakharov, P.F.

CA

17

Stability of peracetin (acetyl-α-aminonicotine) solution in ampoules. P. F. Sakharov. *Farmatsiya* 10, No. 1, 35-9(1947).—As measured by effect on respiratory rate and vol. in 5 rabbits, acetyl-α-aminonicotine (peracetin, I) in 1% soln. in ampoules was slightly more active after 18 and slightly less active than initially after 66 months of lab. storage. The dose was 10-15 mg./kg. In 1% soln., dose 6 mg., I gave 100% kill of 6 mice when fresh, after 60 and 240 min. on a boiling waterbath, after freezing, and after 18 and 66 months of lab. storage, but no kill after boiling 10 min. over an open flame or after 8.5 months of unprotected storage. Impurities, failure to exclude air from ampoules, and contamination from glass ampoule walls are common actual causes of deterioration attributed to instability of the drug. Julian F. Smith

COMMON ELEMENTS

OPEN

MATERIALS INDEX

COMMON VARIABLES INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX

3RD AND 4TH ORDERS

2ND LETTER

AUTHOR INDEX

1ST AND 2ND LETTER

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

PA 4T57

SAKSONOV, P.

Feb 1947

USSR/Pharmacology
Ginseng

"Materials on the Pharmacological Characteristics of the Panax Ginseng," M. Z. Burkat and P. Saksonov, 9 pp

"Farmakol i Toksilol" Vol X, No 2

Detailed results of experiments on both warm and coldblooded animals with reproductions of recorded cardiac reactions. It is concluded that small doses of the extract excite the heart, and large ones depress it.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P.

"Pharnacological and Toxicological Mixtures of Neoplasmochin and Acrichin [Quinacrine] Med. Paraz. i Paraz. Bolez., Vol. 17, No. 3, pp 267-68, 1948.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P. P.

Saksonov, P. P. - "On the history of the plaster cast", (On the Russian scholar and surgeon V. A. Basov, 1812-1879), Vracheb. delo, 1949, No. 4, paragraphs 371-372.

SO: U-4329, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P. P.

PA 162T75

USSR/Medicine - Malaria, Therapy Feb 50

"New Agent for the Treatment of Malaria," P. P. Saksonov

"Feld'sher i Akusher" No 2, pp 59-60

Generally discusses antimalarial properties of bigumal (paludrine). Briefly sums up experimental and clinical data but presents no original work. It has been shown to be less toxic than atebrin on majority of laboratory animals with exception of white mice. Extended use in man causes loss of weight, and Soviet authors find upon treatment with it that a somewhat higher percentage

[redacted] 162T75

USSR/Medicine - Malaria, Therapy (Contd) Feb 50

of recurrences takes place than after treatment with atebrin.

[redacted] 162T75

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P. P.

Dmitrii Leonidovich Romanovskii. Fel'dsher & akush. No 10 Oct 50 p. 41-3.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

Sadsonov, P.P.

USSR/Pharmacology and Toxicology - Miscellaneous Preparations V

Abs Jour : Ref Zhur - Biol., No 2, 1959, 9289

Author : Vasil'yev, P.V., Sadsonov, P.P.
Inst : -
Title : Pharmacology of Pyrogenic Bacterial Polysaccharides

Orig Pub : Byul. eksperim. biol. i med., 1957, 44, No 10, 77-80

Abstract : The preparation of pyrogenic polysaccharide (PP) obtained from the culture of Proteus vulgaris is nontoxic and has no local irritating effect. PP administered to rats, rabbits and dogs in doses of 1-2 γ /kg produces gradual rise of temperature (during $1\frac{1}{2}$-$2\frac{1}{2}$ hours). Thereafter, the body temperature decreases and returns to the initial level in 5-7 hours. Preliminary administration of novocain and urethane decreases this effect. PP has anti-inflammatory action. When PP is introduced in a dose of 500 γ /kg, a short-lived hypotension and respiratory depression is observed. -- A.M. Ivanitskiy

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P.P.; CHERNENKO, G.T.

Effect of mercamine on the motor function of the gastrointestinal tract. Farm.i toks. 22 no.6:550-554 N-D '59. (MIRA 13:5)
(ETHANETHIOL)
(DIGESTIVE ORGANS)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

BELAY, V.Ye.; VASIL'YEV, P.V.; SAKSONOV, P.P.

Data on the comparative pharmacological characteristics of various salts of mercamine. Farm. i tox. 23 no. 5:450-455 S-O '60. (MIRA 13:12)

(ETHYLAMINE)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

VASIL'YEV, P.V.; SAKSONOV, P.P. (Moskva)

Pharmacology of various high-molecular polysaccharides. Biul. eksp.biol.i med. 50 no.9:97-100 S '60. (MIRA 13:11)
(POLYSACCHARIDES)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

BELAY, V.Ye.; VASIL'YEV, P.V.; SAKSONOV, P.P.; CHERNENKO, G.T.

Reactivity of the organism to durgs in radiation sickness.
Med.rad. no.11:72-78 '61. (MIRA 14:11)
(RADIATION SICKNESS)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P.P., kand.med.nauk

Rays from space. Zdorov'e 8 no.8:1-3 Ag '62. (MIRA 15:8)
(SPACE BIOLGOY) (SPACE MEDICINE)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P.P., ANTIPOV, V.V.

"Effects of space radiation on earth's forms of life."

Report submitted to the Committee on Space Research Symposium on Terrestial Life in Space, Warsaw, Poland 3-11 June 1963

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P. P., ANTIPOV, V. V., SHASHKOV, V. S., RAZGOVOROV, B. L., MURIN, S. F., and MOROZOV, V. S.,

"On the Biological Effect of High-Energy Protons"

report submitted for the 14th Intl. Astronautical Federation (IAF) Congress, Bioastronautics Committee, Paris, France 25 Sep-1 Oct 63

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P. P., ANTIPOV, V. V., DOBROV, N. N., NIKITIN, M. D., and VOLYNKIN, Yu. M.,

"Ensuring of Radiation Safety During Flights of Soviet Cosmonauts Yu. A. Gagarin, G. S. Titov, A. G. Nikolayev, and P. R. Popovich."

report submitted for the 14th Intl. Astronautical Federation (IAF) Congress, Bioastronatuics Committee, Paris, France 25 Sep-1 Oct 63

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P. P., ANTIPOV, V. V., SAVENKO, I. A., and VOLYNKIN, Yu. M.,

"Problems of Radiation Safety of Space Flights,"

report submitted for the 14th Intl. Astronautical Federation (IAF) Congress, Bioastronautics Committee, Paris, France 25 Sep-1 Oct 63

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSANOV, P. P., YAZDOVSKIY, V, I., ANTIPOV, V. V.,

"Investigation of Biological Effect of Cosmic Radiation Under Conditions of Space Flights"

report submitted for the 14th Intl. Astronautical Federation (IAF), Congress, Bioastronautics Committee, Paris, France, Sep 25-Oct 1 63

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

GENIN, Abram Moiseyevich; GUROVSKIY, Nikolay Nikolayevich; YEMEL'YANOV, Mikhail Dmitriyevich; SAKSONOV, Pavel Petrovich; YAZDOVSKIY, Vladimir Ivanovich; NEYMAN, M.I., red.; [redacted], tekhn. red.

[Man in space] Chelovek v kosmose. Moskva, Medgiz, 1963. 159 p. (MIRA 17:3)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P.P.

3

ACCESSION NR: AT4042646 S/0000/63/000/000/0023/0026

AUTHOR: Antipov, V. V.; Vy'sotskiy, V. G.; Davy'dov, B. I.; Dobrov, N. N.; Morozov, V. S.; Murin, G. F.; Nikitin, M. D.; Saksonov, P. P.

TITLE: Some problems in providing radiation safety in space flight

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy' konferentsii. Moscow, 1963, 23-26

TOPIC TAGS: radiation safety, space flight, spaceflight factors, cosmic radiation effect, vibration, acceleration, radiation protection, dosimetric control, biological dosimeter, solar flare, antiradiation drug/RBE

ABSTRACT: Although protons are an important component of primary cosmic radiation, experimental data on their biological action under space conditions and their RBE compared with x-rays and gamma-rays are lacking. It has been established that the RBE of protons with energies in excess of 100 Mev (LD_{50} for rodents) is a little less than one. However, the data on which this figure is based were obtained with various particle accelerators of high-dose power and pulsed radiation,

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ACCESSION NR: AT4042646

conditions not found in space. The RBE of alpha-particles and high-energy nuclei of the heavier elements has been estimated as lying between 2 and 10. Laboratory verification with animals is unfortunately impossible, since sufficiently powerful accelerators do not exist. The combined effect of radiation and other space-flight factors (vibration, acceleration, modified atmosphere, etc.) is another important area where few experimental data are available. It is necessary to know in what ways and to what extent cosmic radiation contributes to the total effect of space flight on the human body, and what is the qualitative and quantitative influence of other space-flight factors on the biological effect of radiation, in order to formulate scientifically-based antiradiation drugs and safety measures. Experiments have shown that the development of radiation damage is modified by acceleration and vibration, the effect depending on when and in what sequence these factors occur. Animals subjected to vibration and acceleration 5 to 7 days after irradiation showed a poorer tolerance to these factors than nonirradiated animals. In addition, the vibration and acceleration aggravated the course of the radiation sickness. Vibration and acceleration prior to irradiation not only failed to aggravate radiation sickness, but even somewhat abated its severity. Without experimental data on RBE and the combined effects of spaceflight factors, permissible levels of radiation cannot be scientifically established. A conditional

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ACCESSION NR: AT4042646

permissible dose of 25 ber (biological equivalent roentgen) has been set, but is subject to revision upward or downward as actual data on the effect of various cosmic radiation components and the effectiveness of antiradiation measures are accumulated. The ideal type of radiation protection would be mechanical shielding (i. e., an actual screen of lead or some other material) but this is technologically impossible at present. The majority of chemical antiradiation agents cannot be used under space-flight conditions. Since radiation effects are not confined to humans, not only the crew members but the whole spaceship biocomplex (plants, animals on board, etc.) must be protected lest the equilibrium of the closed ecology be upset by hereditary or other effects. Basic elements of a radiation safety system for spacecraft will be: 1) dependable dosimetric control of the radiation level in the spaceship cabin by means of ship, individual, and biological dosimeters; 2) scientific forecasting of radiation conditions in space, especially solar chromoshpheric flares; and 3) effective pharmacological and biological agents for protection against the harmful effects of cosmic radiation.

ASSOCIATION: none

SUBMITTED: 27 SEPT 63

Card 3/4

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

ACCESSION NR: AT4042681 S/0000/63/000/000/0185/0188

AUTHOR: Zhukov-Verezhnikov, N. N.; Mayskiy, I. N.; Yazdovskiy, V. I.; Pekhov, A. P.; Ry*bakov, N. I.; Tribulev, G. P.; Saksonov, P. P.; Dobrov, N. N.; Antipov, V. V.; Kozlov, V. A.; Vy*sotskiy, V. G.; Mishenko, B. A. Ry*bakova, D. K.; Parfenov, G. P.; Pantyukhova, V. V.; Yudin, Ye. V.; Aniskin, Ye. D.

TITLE: The evaluation of the biological effectiveness of space-flight factors with the aid of lysogenic bacteria

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy* konferentsii. Moscow, 1963, 185-188

TOPIC TAGS: lysogenic bacteria, biological sensor, radiation detector, bacteriophage, phage, vibration, irradiation/Vostok III, Vostok IV

ABSTRACT: Lysogenic bacteria, E. coli K-12 (λ), was carried on spaceships

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Vostok III and Vostok IV as a biological sensor. The advantages of lysogenic bacteria as biological sensors stem not only from their extreme sensitivity to various types of radiation, but also from the fact that induced changes are directly proportional to the dose of irradiation. In addition, E. coli was subjected to the combined effects of radiation and vibration in ground experiments. Vibration was produced by means of a vibrator with frequencies of 35, 70, and 700 cps, an amplitude ranging from 0.4 to 0.005 mm with a load equal to 10 g, for periods of 15, 30, and 60 min. Co^{60} in doses of 100 r at a rate of 21 r per min served as a source of radiation. Lysogenic bacteria carried on spaceships Vostok III and Vostok IV revealed induction of genetic changes produced by space-flight factors which was indicated by a significant increase in the number of phage particles. The induced effect was more pronounced on Vostok III than on Vostok IV. Forty-eight hours after its return to earth, the bacteria carried by Vostok III had produced 4.6 times as many phage particles as controls which had remained on earth. Ground experiments with vibration indicate that the combined vibration and gamma irradiation, followed by a second exposure to vibration, double the biological effectiveness of gamma rays.

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However, when the bacteria is subjected to only a single dose of vibration following irradiation, there is no increase in the number of phage particles as compared to samples which were exposed to irradiation alone. This fact indicates that under space flight c nditions vibration sensitizes the lysogenic bacteria to the effect of ionizing radiation. This as yet hypothetical explanation should be substantiated by additional experiments.

ASSOCIATION: none

SUBMITTED: 27Sep63 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000

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APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P.P., polkovnik meditsinskoy sluzhby; VASIL'YEV, P.V.; polkovnik meditsinskoy sluzhby; BELAY, V.Ye., podpolkovnik meditsinskoy sluzhby; CHERNENKO, G.T., podpolkovnik meditsinskoy sluzhby

Characteristics of the action of drugs in acute radiation sickness; a review of the literature. Voen. - med. zhur. no.1: 44-50 1963. (MIRA 17:8)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

L 12613-63 EWT(1)/FCC(w)/FS(v)/BDS/EEC-2/ES(a)/ES(b)/ES(c)/ES(k)/EEO-2/
ES(t)-2/ES(v) AFMDC/AFFTC/ASD/ESD-3/APGC Pi-4/Po-4/Pq-4/Pb-4/Pe-4 TT/A/GW/DD
ACCESSION NR: AP3001543 S/0216/63/000/003/0405/0418

AUTHOR: Volynkin, Yu. M.; Saksonov, P. P.

95
94

TITLE: Medico-biological analysis of cosmic flight factors

SOURCE: AN SSR. Izv. Seriya biologicheskaya, no. 3, 1963, 405-418

TOPIC TAGS: space flight, solar flare, weightlessness, space medicine

ABSTRACT: Medico-biological factors of cosmic flights are discussed on the basis of published sources listed in the bibliography. The authors analyze data on biological action of physical conditions and examine certain problems of protecting living organisms from harmful action during cosmic flight. All physical factors encountered in flight are divided into three groups: 1) The first group deals with space as an external environment unique for living organisms in that it has low barometric pressure, a changed gas composition lacking molecular oxygen, ionizing radiation, meteors, and sharp temperature contrasts. 2) The second group deals with dynamic flight factors including engine noise, vibration, acceleration, and weightlessness. 3) The third group deals with life under artificial conditions in a space ship, such as isolation, limited space, restricted movement, eating problems, and microclimate. In

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ACCESSION NR: AP3001543

designing new space ships, new materials and devices are sought to withstand radiation as well as new biological and chemical preparations to increase the organism's resistnce to radiation. Solar flares pose a considerable problem in planning protection against radiation. In referring to the Soviet cosmonauts' flights, the dosimeter types and biological specimens carried aloft are mentioned. The least studied of the dynamic factors is weightlessness. The most radical approach to this problem appears to be the creation of artificial gravitation by means of centrifugal force developing with rotation of the space ship. The authors point out that the vastness and complexity of medico-biological problems require the united efforts of all scientists throughout the world to study and utilize outer space "exclusively for peaceful purposes." Orig. art. has: 4 tables.

ASSOCIATION: None

SUBMITTED: 19Oct62 DATE ACQ: 21Jun63 ENCL: 00

SUB CODE: AM NO SOV REF: 022 OTHER: 004

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

L 18080-63 EWT(1)/EWT(m)/FCC(w)/BDS/EEC-2/ES(a)/ES(j)/ES(c)/ES(k)/
ES(v) AMD/AFFTC/ASD/AFMDC/ESD-3/APGC Pb-4/Pi-4/Po-4/Pe-4/Pq-4 A/RB/AR/K/DD

ACCESSION NR: AP3005662 S/0248/63/000/008/0013/0020

AUTHOR: Saksonov, P. P.; Antipov, V. V.; Dobrov, N. N. 95

TITLE: Achievements and aims in the field of cosmic radiobiology

SOURCE: AMN SSSR. Vestnik, no. 8, 1963, 13-20

TOPIC TAGS: radiobiological problem, space flight, cosmic radiation, relative biological efficiency, proton, alpha particle, chromosome aberration, vibration, X-irradiation, radiation protection

ABSTRACT: This article is a survey of radiobiological problems of space flight based on 16 Russian and foreign sources. With cosmic radiation in the form of radiation belts and sun flares presenting many difficulties, the relative biological efficiency of protons, alpha particles, and heavy nuclei together with other flight factors require considerable study. The combined action of cosmic radiation and other flight factors on biological specimens are being investigated in laboratories and under actual flight conditions. Various biological specimens have been taken aloft by Soviet and American

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ACCESSION NR: AP3005662

astronauts for study o_ life processes and radiation effects. In the laboratory white mice have been subjected to vibrations of 70 hz/15 min and X-rays of 100 r to determine the frequency of chromosome aberrations. Effective physical, biological, and pharmacological means of radiation protection need to be developed. Orig. art. has: 2 tables.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: AM NO REF SOV: 011 OTHER: 005

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

ANTIPOV, V.V.; YEFREMOV, Yu.I.; NIKITIN, M.D.; SAVENKO, I.A.; SAKSONOV, P.P.

Safety measures against radiation during flights of the spaceships "Vostok-3" and "Vostok-4". Kosm. issl. 1 no.2:303-308 S-O '63. (MIRA 17:4)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P.P.; FAKHRUTDINOV, G.F.

Data on the toxicology of radioactive iodine. Med. rad. 8 no.5: 29-32 My '63. (MIRA 17:5)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SAKSONOV, P.P.; ANTIPOV, V.V.; DOBROV, N.N.

Some results and problems in the field of cosmic radiobiology. Vest. AMN SSSR 18 no.2:13-20 '63. (MIRA 17:7)

1. Institut normal'noy i patologicheskoy fiziologii AMN SSSR.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

ANTIPOV, V. V.; VYSOTSKIY, V. G.; DAVYDOV, B. I.; DOBROV, N. N.; MOROZOV, V. S.; MURIN, G. F. NIKITIN, M. D.; SAKSONOV, P. P.

"Some problems in providing radiation safety in space flight."

report presented at the 5th Intl Space Science Symp, Florence, 12-16 May 64.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

VOLYNKIN, Yu.M.; YAZDOVSKIY, V.I., prof.; GENIN, A.M.; GAZENKO, O.G.; GUROVSKIY, N.N.; YEMEL'YANOV, M.D.; MIKHAYLOVSKIY, G.P.; GORBOV, F.D.; SERYAPIN, A.D.; BAYEVSKIY, R.M.; ALTUKHOV, G.V.; KOPANEV, V.I.; KAS'YAN, I.I.; MYASNIKOV, V.I.; TERENT'YEV, V.G.; BRYANOV, I.I.; FEDOROV, Ye.A.; FOMIN, V.S.; ARUTYUNOV, G.A.; ANTIPOV, V.V.; KOTOVSKAYA, A.R.; KAKURIN, L.I.; TSELIKIN, Ye.Ye.; USHAKOV, A.S.; VOLOVICH, V.G.; SAKSONOV, P.P.; YEGOROV, A.D.; NEUMYVAKIN, I.P.; TALAPIN, V.F.; SISAKYAN, N.M., akademik, red.; KOLPAKOVA, Ye.A., red.izd-va; ASTAF'YEVA, G.A., tekhn.red.

[First group space flight; scientific results of medical and biological studies carried out during the group orbital flight of manned satellites "Vostok-3" and "Vostok-4] Pervyi gruppovoi kosmicheskii polet; nauchnye rezul'taty mediko-biologicheskikh issledovanii, provedennykh vo vremia gruppovogo orbital'nogo poleta korablei-sputnikov "Vostok-3" i "Voskot-4." Moskva, Izd-vo "Nauka," 1964. 153 p. (MIRA 17:3)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

ZHUKOV-VEREZHNIKOV, N. N.; VOLKOV, M. N.; MAYSKIY, I. N.; TRIBULEV, G. P.; RYBAKOV, N. I.; SAKSONOV, P. P.; ANTIPOV, V. V.; KOZLOV, V. A.; PODOPLELOV, I. I.

"Results of microbiological and cytological investigation on Vostok type spacecraft."

paper presented at the 15th Intl Astronautical Cong, Warsaw, 7-12 Sep 64.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

VOLYNKIN, Yu. M.; ANTIPOV, V. V.; GUDA, V. A.; NIKITIN, M. D.; SAKSONOV, P. P.

"The biological evaluation of radiation conditions on the path between the earth and the moon."

report presented at the 15th Intl Astronautical Cong, Warsaw, 7-12 Sep 64.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

L 41619-65 EWG(j)/EWT(m) GS

ACCESSION NR: AT5008046 S/0000/64/000/000/0211/0219

AUTHOR: Saksonov, P. P.; Vasil'yev, P. V.; Belay, V. Ye.; Vedernikov, A. N.; Chernenko, G. T.

TITLE: Prophylaxis of diseases caused by multiple external gamma radiation

SOURCE: Patogenez, eksperimental'naya profilaktika i terapiya luchevykh porazheniy (Pathogenesis, experimental prevention, and therapy of radiation injuries); sbornik statey. Moscow, Izd-vo Meditsina, 1964, 211-219

TOPIC TAGS: gamma radiation, cystamine, radiation sickness, radiation protection

ABSTRACT: Tests were conducted on white mice and white rats to determine the effectiveness of certain antiradiation agents in different variants of multiple irradiation. The prophylactic agents were cystamine, cystaphen-cystamine in combination with phenatin, and isotyphen-β-aminoethylisothiuronium in combination with phenatin. The protective compounds have a prophylactic action both in single and in multiple irradiation of animals, and increase the survival rate by 8-25%. In the case of prior repeated administration of protective agents and subsequent one-time

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L 41619-65

ACCESSION NR: AT5008046

irradiation, the antiradiation action of the preparations is preserved; however, the percentage of survival of the animals is less than in the case of a single administration of the protective agent. Orig. art. has: 5 tables.

ASSOCIATION: none

SUBMITTED: 19Aug64 ENCL: 00 SUB CODE: LS, NP

NO REF SOV: 002 OTHER: 008

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

VOLYNKIN, Yu.M.; SAKSONOV, P.P.

Physical conditions of space flights and their biological characteristics. Probl. kosm. biol. 3:10-22 '64. (MIRA 17:6)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

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NT[illegible]V, [illegible], [illegible], N.[illegible], [illegible], [illegible].

[illegible] to [illegible] the biological action of [illegible] radiation [illegible] means [illegible] radiation protection. [illegible] Kosm. [illegible] 1964. ([illegible])

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

ZHUKOV-VEREZHNIKOV, N.N.; YAZDOVSKIY, V.I.; MAYSKIY, I.N.; TRIBULEV, G.P.
PEKHOV, A.P.; SAKSONOV, P.P.; RYBAKOV, N.I.; ANTIPOV, V.V.;
ARTEM'YEV, N.S.; KOZLOV, V.A.; MISHCHENKO, B.A.; YUDIN, Ye.V.
RYBAKOVA, K.D.; ANICKIN, Ye.D.

Microbiological and cytological studies in conquering space.
Probl. kosm. biol. 3:184-192 '64. (MIRA 17:6)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SISAKYAN, N.M.; PARIN, V.V.; ANTIPOV, V.V.; DOBROV, N.N.; SAKSONOV, P.P.

Some conclusions and future development of the radiobiological research in space. Izv. AN SSSR. Ser. biol. no.3:341-351 My-Je '64. (MIRA 17:5)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

ACCESSION NR: AP4043503 S/0293/64/002/004/0641/0647

AUTHOR: Shashkov, V. S.; Saksonov, P. P.; Antipov, V. V.; Morozov, V. S.; Murin, G. F.; Kazgovorov, B. L.; Suvorov, N. N.; Fedoseyev, V. M.

TITLE: Effectiveness of pharmacological and chemical protection under conditions of gamma radiation and protons with energies of 660 and 120 Mev

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 4, 1964, 641-647

TOPIC TAGS: radiation protection, pharmacology, chemistry, radioprotective pharmaceutical, radioprotective chemical, gamma radiation, proton, corpuscular radiation

ABSTRACT: The comparative effects of gamma and corpuscular radiation were studied using 1360 white mice. In each of three tests, the protective influence of AET, mercamine, serotonine, 5-methoxytryptamine, tryptamine, and 5-oxytryptophane was tested. Experimental animals were compared with irradiated controls (mice not given protective agents) and biological controls (mice under normal conditions). In the first test, 240 mice were irradiated with an 850-r(DL_{100}) dose of cobalt-60 gamma rays. All irradiated controls perished. Of those administered radioprotective agents, mice given AET (150 mg/kg),

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ACCESSION NR: AP4043503

5-methoxytryptamine (75 mg/kg), serotonine (50 mg/kg), and mercamine (150 mg/kg) showed significantly greater viability and longer mean longevity than mice given tryptamine (100 mg/kg) and 5-oxytryptophane (250 mg/kg). In the second test, 400 mice received 660 Mev corpuscular radiation with protons in an 1178-rad (DL_{100}) dose. Of 160 irradiated controls, only 3 survived for 30 days. Of mice administered radioprotectors, those given AET and 5-methoxytryptamine showed the greatest survival. Mercamine and serotonine exerted the same protective influence as in the test with gamma rays. In other investigations, AET has been shown to be an effective protective agent even during 1600 rad of absolutely lethal proton radiation. In the third test, 220 mice received 1200—100 rad (DL_{100}) doses of 120 Mev protons. Of 60 irradiated controls, 2 survived for 30 days. The protective influence of AET, serotonine, mercamine, and 5-methoxytryptamine was preserved in this test. Finally, it was concluded that the relative biological effectiveness of 660 and 120 Mev protons was 75% that of gamma rays. Orig. art. has: 4 tables.

ASSOCIATION: None

Card 2/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

ACCESSION NR: AP4043503

SUBMITTED: 17Feb64 ATD PRESS: 3093 ENCL: 00

SUB CODE: LS, OC NO REF SOV: 019 OTHER: 021

Card 3/3

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

L 11004-65 EWG(j)/EWG(r)/EWT(1)/FS(v)-3/EWG(v)/FCC/EEC-4/EEC(t)/EWG(a)/EWG(c)/EWA(h) Pb-4/Pe-5/Pi-4/Po-4 Pq-4/Pac-2/Peb AMD/BSD/ASD(a)-5/AEDC(a)/AFTC(b)/ESD(dp)/ESD(si)/ESD(t) DD/GW/WS

ACCESSION NR: AP4046783 B S/0293/64/002/005/0797/0804

AUTHOR: Antipov, V. V.; Davy*dov, B. I.; Panchenkova, E. F.; Saksonov, P. P.; Chernov, G. A.

TITLE: Reactivity of the organism following exposure to some space-flight factors

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 5, 1964, 797-804

TOPIC TAGS: ionizing radiation, corpuscular radiation, centrifugation, physical endurance, simulation test, rat, mouse, space flight simulation

ABSTRACT: Experiments were conducted on 700 mice and 80 rats to study the resistance of the organism following accelerations, high-energy proton radiation, and the combined effects of acceleration and ionizing radiation. In the first series of experiments, the resistance of animals to prolonged exercise following acceleration was investigated. In one case, mice were studied 15 min, 1, 2, and 4 hr, and 1, 3, and 7 days after a single exposure to a 20-min, 8-g, chest-to-

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L 11004-65

ACCESSION NR: AP4046783

spine acceleration. In another case, animals were exposed to centrifugation three times in one week, 4 hr after which they were subjected to exercise. The second series of tests involved the exposure of male rats to 700—850 and 1400—1770 rad (60 ± 10 rad/min) doses of 120-Mev protons. Irradiation took place in an OIYaI synchrocyclotron with a current density of 10^8—10^9 protons/cm^2, sec^{-1}. The animals were then tested for endurance during exercise 40 days after irradiation. Finally, the weight of the spleen and left adrenal was measured. In the third series, endurance to exercise was investigated following the combined action of acceleration (8 g for 15 min) and ionizing radiation (400—700 rad). Exercise consisted of swimming until exhausted in a water tank where the water temperature was 10—20C. It was found that the physical endurance of mice was statistically lower 4 hr after acceleration, with increased endurance 7 days afterwards. There was a seasonal variation in the physical endurance in animals exposed to accelerations. Changes in the reactivity of centrifuged animals to physical strain was correlated with shifts in blood ceruloplasm. Physical endurance was lowered in animals 40 days after 700—1770 rad doses of 120-Mev

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L 14004-65
ACCESSION NR: AP4046783

protons. Preliminary centrifugation somewhat increased the resistance of animals to ionizing radiation. Orig. art. has: 2 tables and 3 figures.

ASSOCIATION: none

SUBMITTED: 07May64 ENCL: 00 SUB CODE: LS, PH

NO REF SOV: 010 OTHER: 007 ATD PRESS: 3135

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

ACCESSION NR: AP4039713 S/0205/64/004/003/0337/0343

AUTHOR: Sisakyan, N. M.; Antipov, V. V.; Saksonov, P. P.; Yazdovskiy, V. I.

TITLE: The biological action of cosmic radiation under space flight conditions

SOURCE: Radiobiologiya, v. 4, no. 3, 1964, 337-343

TOPIC TAGS: manned space flight, cosmic radiation, Vostok, radiobiology

ABSTRACT: The article reviews the historical development of experiments concerning the effects of cosmic radiation on the organism and concentrates on results of the latest Soviet space probes. The mean intensity of cosmic radiation registered by means of various dosimetric devices was 10 ± 2 mrad per day on Sputniks 2, 4, and 5, and on Vostoks 1, 2, 3, and 4. The bone marrow cells of mice, seeds of plants, lysogenic bacteria, and Tradescantia microspores all exhibited small but significant alterations as a result of exposure to conditions of space flight and cosmic radiation.

Card 1/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

ACCESSION NR: AP4039713

ASSOCIATION: none

SUBMITTED: 29Dec63 DATE ACQ: 19Jun64 ENCL: 00

SUB CODE: LS, AA NO REF SOV: 014 OTHER: 009

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

VOLYNKIN, Yu.M.; PARIN, V.V.; ANTIPOV, V.V.; GUDA, V.A.; DOBROV, N.N.; NIKITIN, M.D.; SAKSONOV, P.P.

Radiation protection during the flight of Soviet cosmonauts on "Vostok" space ships. Radiobiologiia 4 no.3:344-348 '64.

(MIRA 17:11)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

L 16634-65 EEO-2/EWG(j)/FSF(h)/FSS-2/EWG(r)/EWT(1)/FS(v)-3/EEC(k)-2/EWG(v)/ FCC, EWA(d)/EEC-4/EEC(t)/EWG(a)/EWG(c)/EWA(h) Po-4/Pe-5/Pq-4/Pac-4/Pae-2/ Peb/Pi-4/Pb-4 ESD(si)/SSD/BSD/AFWL/AS(mp)-2/AMD/AFMDC/AFETR/AFTC(b)/AFTC(a) TT/DD/GW/WS

80 79 B 4C

ACCESSION NR: AP4046443 S/0205/64/004/005/0738/0742

AUTHOR: Zhukov-Verezhnikov, N. N.; Mayskiy, I. N.; Pekhov, A. P.; Ry*bakov, N. I.; Saksonov, P. P.; Mishchenko, B. A.; Kozlov, V. A.; Ry*bakova, K. D.; Anikin, Ye. D.

TITLE: Effect of antiradiation drugs on phage production of lysogenic bacteria induced by x-irradiation

SOURCE: Radiobiologiya, v. 4, no. 5, 1964, 738-742

TOPIC TAGS: antiradiation drugs, radioprotectors, phage production, lysogenic bacteria, E. coli K-12(λ), x-ray, irradiation, biological radiation sensor, space flight, 2-mercaptopropylamine, mercamine disulfide, urethane

ABSTRACT: Experiments have been performed to determine the effects of antiradiation drugs and urethane on biological objects capable of warning of radiogenetic damage. Lysogenic bacteria E. coli K-12(λ) was selected because it proved to be a reliable and sensitive biological radiation sensor in space flight experiments by producing

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ACCESSION NR: AP4046443

phage particles in proportion to the dose of ionizing radiation. The mechanism of phage production by lysogenic bacteria constitutes a molecular-genetic reaction related to transformation-type genetic anomolies. The highest permissable concentration of each substance was used which did not have a bacteriostatic effect on E. coli K-12(λ). The concentrations for 2-mercaptopropylamine and mercamine disulfide were 0.05% and 0.8% for urethane. Irradiation of bacterial cultures was produced by an RUM-7 generator with a dose rate of 4050 r/min, a voltage of 50 kv, an amperage of 15 mamps, an irradiation distance of 8 cm, and using a 0.1-mm Al filter. It was found that 2-mercaptopropylamine and mercamine disulfide exert a substantial protective action on the prophage, but that they have no protective effect on mature phage particles. Urethane shows no radioprotective effect on lysogenic bacteria. The results obtained coincide with those obtained with other biological objects, and the ease of working with lysogenic bacteria indicate that E. coli K-12(λ) can serve as a useful subject for the fast primary identification of chemical compounds capable of protecting against genetic injury by radiation. Orig. art. has: 1 figure and 3 tables.

Card 2/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

L 16634-65

ACCESSION NR: AP4046443

ASSOCIATION: Institut eksperimental'noy biologii AMN SSSR, Moscow (Institute of Experimental Biology, Academy of Medical Sciences of the SSSR)

SUBMITTED: 07Mar63 ENCL: 00 SUB CODE: LS

NO REF SOV: 014 OTHER: 014

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

SHASHKOV, V.S.; FEDOSEYEV, V.M.; BURKOVSKAYA, T.Ye.; SAKSONOV, P.P.; ANTIPOV, V.V.; YEVDOKIMOV, Yu.N.

Study of the radioprotective activity of some newly synthesized thiazoline derivatives. Radiobiologiia 4 no.6:927 '64. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova, khimicheskiy fakul'tet.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

VOLYNKIN, Yu.M.; ARUTYUNOV, G.A.; ANTIPOV, V.V.; ALTUKHOV, G.V.; BAYEVSKIY, R.M.; BELAY, V.Ye.; BUYANOV, P.V.; BRYANOV, I.I.; VASIL'YEV, P.V.; VOLOVICH, V.G.; GAGARIN, Yu.A.; GENIN, A.M.; GORBOV, F.D.; GORSHKOV, A.I.; GUROVSKIY, N.N.; YESHANOV, N.Kh.; YEGOROV, A.D.; KARPOV, Ye.A.; KOVALEV, V.V.; KOLOSOV, T.A.; KORESHKOV, A.A.; KAS'YAN, I.I.; KOTOVSKAYA, A.R.; KALIBERDIN, G.V.; KOPANEV, V.I.; KUZ'MINOV, A.P.; KAKURIN, L.I ; KUDROVA, R.V.; LEBEDEV, V.I.; LEBEDEV, A.A.; LOBZIN, P.P.; MAKSIMOV, D.G.; MYASNIKOV, V.I.; MALYSHKIN, Ye.G.; NEUMYVAKIN, I.P.; ONISHCHENKO, V.F.; POPOV, I.G.; PORUCHIKOV, Ye.P.; SIL'VESTROV, M.M.; SERYAPIN, A.D.; SAKSONOV, P.P.; TERENT'YEV, V.G.; USHAKOV, A.S.; UDALOV, Yu.F.; FOMIN, V.S.; FOMIN, A.G.; KHLEBNIKOV, G.F.; YUGANOV, Ye.M.; YAZDOVSKIY, V.I.; KRICHAGIN, V.I.; AKULINICHEV, I.T.; SAVINICH, F.K.; STMPURA, S.F.; VOSKRESENSKIY, O.G.; GAZENKO, O.G., SISAKYAN, N.M., akademik, red.

[Second group space flight and some results of the Soviet astronauts' flights on "Vostok" ships; scientific results of medical and biological research conducted during the second group space flight] Vtoroi gruppovoi kosmicheskii polet i nekotorye itogi poletov sovetskikh kosmonavtov na korabliakh "Vostok"; nauchnye rezul'taty medikobiologicheskikh issledovanii, provedennykh vo vremia vtorogo gruppovogo kosmicheskogo poleta. Moskva, Nauka, 1965. 277 p. (MIRA 18:6)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

L 27408-65 EWG(j)/EWG(r)/EWT(1)/FS(v)-3/EWG(v)/EWG(a)/EWG(c) Pe-5 DD/RD

ACCESSION NR: AP5003895 S/0216/65/000/001/0003/0009

AUTHOR: Parin, V. V.; Antipov, V. V.; Raushenbakh, M. O.; Saksonov, P. P.; Shashkov, V. S.; Chernov, G. A.

TITLE: Changes in the concentration of serotonin in the blood of animals caused by the effects of ionizing radiation and the dynamic factors of space flight

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 1, 1965, 3-9

TOPIC TAGS: blood serotonin level, ionizing radiation effect, x ray, vibration, vibration effect, combined factors effect, mouse, rat, guinea pig, dog, monkey, acceleration, weightlessness

ABSTRACT: Experiments were performed in order to test the effects of space flight in orbital spaceships and of ionizing radiation and vibration under laboratory conditions on the concentration of serotonin in the blood of animals. The biological method described by Erspamer and Vane was used to determine the concentration of serotonin in the blood. This method is based on the ability of serotonin to cause contraction of the smooth intestinal muscles of a rat. Monkeys, dogs, guinea pigs, rats, and mice were subjected to lethal doses of gamma rays (Co^{60}) in the radiation experiments. In dogs, monkeys, and guinea pigs, the disruption in the serotonin

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level of the blood was very marked and was in direct relation to the severity of the radiation sickness, while in rats and mice the drop in the concentration of serotonin was less marked and did not depend on the extent of radiation injury. The first group of animals developed a sharply defined hemorrhagic syndrome during the course of radiation sickness while the second group (rats and mice) did not evidence hemorrhagic symptoms. The chief reason for the drop in the serotonin level of the blood during radiation sickness is the disruption of the formation of serotonin in the digestive tract. The concentration of serotonin in the blood of mice and dogs carried on the fourth and fifth orbital spaceships dropped 8—10 times in mice and 3.5—10 times in dogs, on the first or second day after return, in comparison with the control level (0.12—0.2 μg/ml). After 10 days the serotonin level of these animals returned to normal. During the period of 80—240 days after space flight, the serotonin level in dogs remained normal. Mice and guinea pigs subjected to vibration (frequency: 35 and 70 cps, amplitude: 0.4 mm), for fifteen minutes also showed a drop in the serotonin level of the blood during the first two days, with a subsequent return to normal. The authors conclude that vibration is one of the factors responsible for a drop in the concentration of serotonin in the blood during space flight. Orig. art. has: 4 tables. [BM]

ASSOCIATION: none

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"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001446810019-7

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SUBMITTED: 00 ENCL: 00 SUB CODE: PH, LS

NO REF SOV: 009 OTHER: 019 ATD PRESS: 3192

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