"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOV, Ya. A.

USSR/ Miscellaneous Glass fiber

Card : 1/1 Pub. 104 - 4/12

Authors : Shkol'nikov, Ya. A., Kocharov, E. P., and Borodashkina, V. V.

Title : Thermal insulation basalt fibers

Periodical : Stek. i ker. 9, 9 - 12, September 1954

Abstract : The valuable properties of basalt, for the manufacture of glass-fiber materials, are discussed together with the method of manufacturing heat-insulating fibers from basalt. Tables; graph.

Institution : ....

Submitted : ....

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

AUTHOR: Shkol'nikov, Ya. A. SOV/72-58-9-2/20

TITLE: Technology of Economical Production of Fiber Glass by Means of Blast Processes (Ratsional'naya tekhnologiya vyrabotki steklyannogo volokna sposobom razduva)

PERIODICAL: Steklo i keramika, 1958, Nr 9, pp 4 - 7 (USSR)

ABSTRACT: Two methods of blasting are known at present: The vertical (Merefa Glass Works of the Khar'kov Council on National Economy) and the horizontal Ivot Glass Works of the Bryansk Council of National Economy). In both methods a steam blast acts with a supersonic velocity upon a glass flow. In the method of horizontal blasting the steam blast hits the glass flows at an angle of about 90°, in that of vertical blasting this angle is 10-11°. With reference to the papers by S.A.Khristianovich and G.N.Abramovich (Ref 1) the author explains the dynamic phenomena which take place during the impact of the steam blast upon the glass flow. Figures 1 and 2 show moving pictures of the glass fiber formation by the method of horizontal blasting according to A.A.

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Ustenko (Ref 3). The undesirable inclusions shown in figure 2 are not produced by the method of vertical blasting. In figure 3 a process of vertical blasting is portrayed. Experiments carried out in the NIISV yielded the result that an angle of incidence of 11° of the steam blast upon the glass flow is the optimum angle with vertical blasting. Test runs, carried out in the laboratory plant of the Institut steklyannogo volokna (Institute for Glass Fibers) together with the Institute of the Teploproyekt at the end of 1957 led to satisfactory results. The works testing plant of the Merefa Glass Works also operated with good results. B.N.Kaufman (Ref 5) in his paper showed that uneven glass fibers with a large diameter reduce the insulation properties of fiber products. The Laboratoriya ekonomicheskikh issledovaniy Instituta stekla (Laboratory for Economic Research at the Institute of Glass) found that insulation products produced by vertical blasting should be cheaper by 26% than those produced by the horizontal method, these products at the same time ex-



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hibiting a better quality. Thus it was established that the method of vertical blasting is superior to horizontal blasting in a technical and in an economical respect. This should be taken into account in the projecting of new works. There are 3 figures and 5 references, 4 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut steklyannogo volokna (Scientific Research Institute of Glass Fibers)



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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

KORNEYEV, L.A. [translator]; SHKOL'NIKOV, Ya.A., kand.tekhn.nauk, red.; DUKHOVNYY, F.N., red.; KNAKNIN, M.T., tekhn.red.

[Glass fibers; a follow-up of materials published by Compain-Queral] Steklianoe volokno; po materialam firmy Kompen-Keral'. Pod red. IA. A. Shkol'nikova. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po legkoi promyshl., 1959. 73 p. (MIRA 13:6)
(France--Glass fibers)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOV, Ya.A., kand. tekhn. nauk; KOCHAROV, E.P., inzh.

Efficient methods for obtaining high-quality mineral-wool heat and sound insulating products. Stroi. mat. 5 no.6:7-10 Je '59. (MIRA 12:8)

(Insulating materials) (Mineral wool)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

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B021/B058

15

AUTHORS: Shkol'nikov, Ya. A., Kocharov, E. P.

TITLE: The Manufacture of Heat- and Sound-insulating Materials From Glass Staple Fiber Must Be Expanded

PERIODICAL: Steklo i keramika, 1960, No. 9, pp. 1-5

TEXT: The experimental technological production line for the production of glass fibers by means of the vertical steam-blowing method and for processing the fiber into heat- and sound-insulating materials is to be considered the technical basis of the development envisaged in the Seven-year Plan. The scheme of such a production line installed at the Merefyanskiy stekol'nyy zavod (Merefa Glassworks) is shown in Fig. 1. The glass mass leaving a spinneret forms staple fibers under the action of superheated flowing steam. A production line for processing the glass staple fiber into finished products was built by the mashinostroitel'nyy zavod imeni Karla Marksa (Machine-building Factory imeni Karl Marx). Experiments at the Institut steklovolokna (Institute for Glass Fiber) showed that it is preferable to use a shuttle-type, electrically heated

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spinneret instead of a platelike one (Fig. 2). The steam nozzle of the type ТВЦ (TVTs)(Fig. 3) was also developed. The resin acting as binding agent is introduced by means of atomizers. The formation of rigid plates in the drying- and polymerization chamber is shown in Fig. 4. The Institute for Glass Fiber jointly with the design office of the Factory imeni Karl Marx and the institut Giprostroyindustriya (State Institute for the Design and Planning of Establishments of the Construction Industry) are conducting experiments for the purpose of establishing a plant for the automatic pasting-on of fabrics. The fabric is pasted on by means of phenol-formaldehyde resin. The fiber is produced from glass No. 28, as developed by the fiziko-khimicheskaya laboratoriya (Physico-chemical Laboratory) of the Institute for Glass Fiber. The temperature dependence of the viscosity of glasses of varying composition is shown in Fig. 5. Synthetic phenol-formaldehyde resins of the types В (B), СП-2 (SP-2), ВР-1 (VR-1) as well as urea formaldehyde of the type МФ-17 (MF-17) are used as binding agents for the manufacture of plates. The output of a plant averages 3 t daily. The zavod imeni Likhacheva (Plant imeni Likhachev) (household refrigerators) and the shipbuilding in-



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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

BARBARINA, T.M.; SUKHOV, M.P.; SHELUDYAKOV, N.A. [deceased]; SHKOL'NIKOV, Ya.A., kand. tekhn. nauk, retsenzent; BOTVINKIN, O.K., prof. doktor khim. nauk, nauchnyy red.; GOMOZOVA, N.A., red. izd-va; GILENSON, P.G., tekhn. red.

[Fiber-glass building materials] Steklovoloknistye stroitel'nye materialy. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 167 p. (MIRA 15:4)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Botvinkin).
(Building materials) (Glass fibers)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

VEYNBERG, Kal'man Lipmanovich; GURFINKEL', Isaak Yevgen'yevich[deceased]; KOTLYAR, Abram Yevseyevich; NOL'KEN, Maksimilian Petrovich; ORLOV, Anatoliy Nikolayevich; KHERSONSKIY, Sergey Semenovich; SHKOL'NIKOV, Yakov Abramovich; BROMLEY, P.V., retsenzent; ZALIZNYAK, A.A., retsenzent; KISELEV, N.V., retsenzent; KLEGG, D.I., retsenzent; SHVAGIREV, Ya.D., retsenzent; DUKHOVNYY, F.N., red.; TRISHINA, L.A., tekhn. red.

[Equipment and mechanization of glass factories]Oborudovanie i mekhanizatsiia stekol'nykh zavodov. [By] K.L.Veinberg i dr. Moskva, Rostekhizdat, 1962. 451 p. diagrs. (MIRA 15:10)
(Glass—Equipment and supplies)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

KOCHAROV, E.P., inzh.; SHKOL'NIKOV, Ya.A., kand.tekhn.nauk

Heat-insulating shells made of glass staple fiber. Stroi.mat. 8 no.7:18-20 Jl '62. (MIRA 15:8)
(Insulation (Heat)) (Glass fibers)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOV, Ya.A.

Manufacture of insulation and acoustical materials made of fiberglass needs efficient technology. Stek.i ker. 19 no.5:4-8 My '62. (MIRA 15:5)
(Glass fiber industry)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOV, Ya.A., kand.tekhn.nauk; KOCHAROV, E.P., inzh.

"Fiberglass building materials" by T.M.Barbarina, M.P.Sukhov, N.A.Sheludiakov. Reviewed by IA.A.Shkol'nikov, E.P.Kocharov. Stek.i ker. 19 no.11:48 N '62. (MIRA 15:12)
(Glass fibers) (Building materials)
(Barbarina, T.M.) (Sukhov,M.P.) (Sheludiakov, N.A.)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

CHERNYAK, M.G., red.; ASLANOVA, M.S., red.; ZAK, A.F., red.; IVANOVA, A.I., red.; KUTUKOV, S.S., red.; PANASYUK, V.I., red.; SHKOL'NIKOV, Ya.A., red.; VASKEVICH, D.N., red.; SHPAK, Ye.G., tekhn.red.

[Methods for testing and quality control of fiber-glass materials] Metody issledovaniia i kontrolia steklovoloknistykh materialov; sbornik statei pod red. M.G. Cherniaka. Moskva, Goskhimizdat, 1963. 92 p. (MIRA 16:6)

1. Vsesoyuznyi nauchno-issledovatel'skii institut stekliannogo volokna.

(Glass fiber industry--Testing)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOV, Ya.A., kand. tekhn. nauk

Calculating the technological parameters of glass fiber manufacturing processes. Stek. i ker. 21 no.7:21-28 Jl '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut steklovolokna.

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L 53736-65 EPF(c)/EPR/EPA(s)-2/EWT(m)/EWP(i)/EWP(b)/EWP(e) Pq-4/Pr-4/Ps-4/Pt-7
WW/WH

ACCESSION NR: AP5015562 UR/0286/65/000/008/0119/0119
666.189.211 G2
B

AUTHOR: Shkol'nikov, Ya. A.; Polik, B. M.; Karakhanidi, N. G.; Ivanov, P. K.; Bober, E. I.; Ulybyshev, V. V.; Alen'kin, A. T.; Bugrova, N. N.; Simakov, D. P.; Shchipin, I. Ye.; Gur'yeva, Yu. N.; Yefimova, M. I.; Nechayeva, Ye. S.; Yesilkina, K. N.; Ivanova, A. I.; Dayn, E. P.; Nabatov, V. G.; Novoyevskaya, Ye. A.; Kukin, Ye. B.; Balashov, V. N.; Gamza, L. B.

TITLE: Glass for glass fibers. 15 Class 32, No. 170369 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 119

TOPIC TAGS: glass, glass fiber

ABSTRACT: An Author Certificate has been issued for a glass suitable for making glass fibers. To increase chemical durability, to prevent corrosion of alloys of aluminum and other light metals, and to improve processability, the glass is formulated to contain: 58—63% $SiO_2$, 2—4% $B_2O_3$, 6—8% $Al_2O_3$, 0.5—1.5% $F_2O_3$, 4—6% $ZrO_2$, 6—8% CaO, 12—13% $Na_2O$, and 1.5—2% $K_2O$. [SM]

ASSOCIATION: none

Card 1/2

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L 53736-65

ACCESSION NR: AP5015562

SUBMITTED: 07Dec62 ENCL: 00 SUB CODE: MT, MM

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4019

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

CHERNYAK, M.G.; ASLANOVA, M.S.; VOL'SKAYA, S.Z.; KUTUKOV, S.S.; SIMAKOV, D.P.; NAYDUS, G.G.; BOVKUNENKO, A.N.; KOVALEV, N.N.; SHKOL'NIKOV, Ya.A.; ZHIVOV, L.G.; KOVALEV, N.P.; KOZHUKHOVA, N.V.; KOROLEVA, A.Ye.; VINOGRADOVA, A.M.; OSIPOVA, O.M.; BADALOVA, E.I.; BRONSHTEYN, Z.I.; L'VOV, B.S.; KRYUCHKOV, N.N.; BLOKH, K.I.; MASHINSKAYA, N.I., red.

[Continuous filament glass fibers; technology fundamentals and their properties] Nepreryvnoe stekliannoe volokno; osnovy tekhnologii i svoistva. Moskva, Khimiia, 1965. 319 p. (MIRA 18:8)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

KARPOV, G.; SHKOL'NIKOV, Ye.; IGNAT'YEVA, V., red.

[The Turkmen S.S.R.] Turkmenskaia SSR. Ogiz, Gos.izd-vo polit.lit-ry, 1945. 69 p. (MIRA 13:2)
(Turkmenistan--History)
(Turkmenistan--Economic conditions)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOV, Ye.I.

Aerial gates to the Far East. Kryl.rod. 14 no.6:30-31 Je '63. (MIRA 16:7)

1. Nachal'nik Khabarovskogo aeroporta.
(Khabarovsk--Airports)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

ACCESSION NR: AT4014060 S/3072/63/000/000/0055/0061

AUTHOR: Shapiro, V. Ya.; Shkol'nikov, Ye, L.

TITLE: Analytical determination of the conditions for the appearance of liquid friction during wire drawing

SOURCE: Fiz.-khim. zakonomernosti deystviya smazok pri obrabotke metallov davleniyem. Moscow, Izd-vo AN SSSR, 1963, 55-61

TOPIC TAGS: friction, wire drawing, hydralic pressure, lubricant, viscosity, fluid mechanics, liquid friction

ABSTRACT: The predominantly liquid friction which arises in the process of wire-drawing is caused by the hydraulic action of the lubricating wedge. This friction appears between the surface of the tool and the surface of the material in the zone preceding the location of the deformation. In the present paper, an analytical expression is derived for the determination of the maximal hydraulic pressure in the lubricant.

$$P_{max} = -\frac{6\mu u}{(T_r - T_{on})\,\Delta}\left[1 - \frac{z_0}{l}\right]^2. \qquad (1)$$

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As shown by the formula, this pressure depends on the viscosity of the lubricant and the geometry of deformation. The hydraulic pressure increases with an increase in the viscosity of the lubricant and the rate of wire-drawing. It also increases when the wedge angle becomes smaller and when the distance between the surface of the tool and the surface of the material is reduced. Application of these calculations to the design of wire drawing apparatus will increase its stability, decrease the drawing pressure required and prevent adhesion of metal to the surfaces of the instrument. Orig. art. has: 3 figures, 1 table and 31 formulas.

ASSOCIATION: None

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| SUBMITTED: 00 | DATE ACQ: 19Dec63 | ENCL: 00 |
| SUB CODE: MM | NO REF SOV: 008 | OTHER: 003 |

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOV, YE.P.

STASYUK, Valentin Nikolayevich; SHKOL'NIKOV, Ye.P., redaktor; SUSHKIN, I.N., redaktor izdatel'stva; EVENSON, I.M., tekhnicheskiy redaktor.

[Mine ore transportation by electric locomotives] Elektrovoznyi rudnichnyi podzemnyi transport. Moskva, Gos.nzuchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 591 p. (MLRA 10:5)

(Electric locomotives) (Mine railroads)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

BORISOVA, Z.U.; SHKOL'NIKOV, Ye.V.; KOZHINA, I.I.

Conductivity of crystallizing glasses $GeSe_{1,5} - xAs_x$ ($x \leq 0,5$).
Vest.LGU 17 no.22:114-118 '62. (MIRA 15:12)
(Arsenic) (Vitreous materials—Electric properties)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

MYULLER, R.L.; SHKOL'NIKOV, Ye.V.

Crystallization of $AsSe_x$ $Ce_y$ glasses studied by the mesurement of conductivity. Vest.LGU 17 no.22:119-133 '62. (MIRA 15:12)
(Vitreous materials—Electric properties)
(Crystallization)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

BR

ACCESSION NR: AP4019841 S/0181/64/006/003/0796/0800

AUTHORS: Shkol'nikov, Ye. V.; Rumsh, M. A.; Myuller, R. L.

TITLE: X ray study of crystallization of semiconductor glasses of the type $AsSe_xGe_y$

SOURCE: Fizika tverdogo tela, v. 6, no. 3, 1964, 796-800

TOPIC TAGS: semiconductor, semiconductor glass, crystallization, electric conductivity

ABSTRACT: The authors have synthesized several compounds with the general formula $AsSe_xGe_y$ by a method described previously (R. L. Myuller and Ye. V. Shkol'nikov, Vestn. LGU, 22, 119, 1962). They have compared the x-ray method of determining completeness of vitrification with previously used methods (density and low-temperature dependence of electrical conductivity). This comparison is summarized in Fig. 1 on the Enclosure. The comparison shows agreement, and the authors conclude that the process of crystallization may be satisfactorily described by measurements

Card 1/3

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

ACCESSION NR: AP4019841

of density and low-temperature dependence of electrical conductivity. Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: 11Sep63 DATE ACQ: 31Mar64 ENCL: 01

SUB CODE: SS, OP NO REF SOV: 004 OTHER: 000

Card 2/3

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

ACCESSION NR: AP4019841




Fig. 1. Isotherms for percent of completeness of the crystallization process in compounds of compositions I, II, and III, determined by different methods.
I - $AsSe_5Ge_4$ annealed at 400 ± 4 C; II - $AsSe_3Ge_{2.66}$ annealed at 450 ± 4 C; III - $As_2Se_3$ annealed at 270 ± 2 C; 1 - determined by quantitative x-ray analysis; 2 - determined by density measurements, 3 - determined by measurements of low-temperature dependence of electrical conductivity.

ENCLOSURE: 01

Card 3/3

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 34480-65 EWT(m)/EWP(e)/EWG(m)/EWP(t)/EWP(b) Pq-4 IJP(c) RDW/JD/WH

ACCESSION NR: AP5008265 S/0054/65/000/001/0115/0119

AUTHOR: Shkol'nikov, Ye. V. 15 31 B

TITLE: Synthesis and electric conductivity of the arsenic selenide-silicon glassy alloys 27 27 27

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 1, 1965, 115-119

TOPIC TAGS: glassy alloy, arsenic selenide silicon glass, infrared glass, glass synthesis, glass electrical conductivity, glass physical property

ABSTRACT: Glasses with a high softening point (to 500C) have been synthesized in the As-Si-Se system. These glasses are supposed to be good transmitters of infrared radiation because of their similarity to known glasses of the As-Si-Te system. Dense glassy ingots containing 0—20 at% Si were prepared by vacuum melting elemental As, Se, and Si in quartz ampuls at a maximum of 1000C, subsequent slow cooling to 600C, and air hardening to room temperature. The glassy state of the ingots was confirmed by visual and microscopic examination and by the absence of the x-ray diffraction lines of silicon. Chemical composition of the ingots corresponded to the general formula $AsSe_{1.5}Si_x$, where x varied from 0 to 0.625, which is the equivalent of 20 at% Si. Experimental electrical conductivity-temperature plots indicated a linear

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ACCESSION NR: AP5008265

increase in conductivity with an increase in temperature from 20 to 250C for all glass compositions. The plots of density and electrical conductivity versus Si content showed a minimum at 10—12 at% Si, while the calculated activation energy of conductivity and measured microhardness were maximum at about the same Si content. The changes in activation energy with an increase of Si content were explained as the effect of transition from As-Se bonds to the less ionized Si-Se bonds. The calculated steric factor values provided evidence of a transient type of conductance in glassy compositions to 10 at% Si, which is somewhat disrupted in the compositions with 10—20 at% Si. The region of glass formation is not limited to 20 at% Si, but alloys with above 20% Si content are chemically unstable and difficult to prepare. Orig. art. has: 2 figures and 1 table. [JK]

ASSOCIATION: none

SUBMITTED: 24Jun64 ENCL: 00 SUB CODE: MT,EM

NO REF SOV: 009 OTHER: 002 ATD PRESS: 3213

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 35507-65 EWA(h)/EWT(1)/EWT(m)/EWG(m)/EWP(b)/T/EWT(e)/EWP(t) Pq-4/Pz-6/Peb
IJP(c) RDW/AT/WH/JD

ACCESSION NR: AP5008266 S/0054/65/000/001/0120/0127

AUTHOR: Shkol'nikov, Ye. V.; Borisova, Z. U.

TITLE: Electric conductivity and microhardness of the glassy and glass-crystalline arsenic selenide-lead compounds

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 1, 1965, 120-127

TOPIC TAGS: glassy alloy, glass crystalline alloy, arsenic selenide lead glass, semiconductor glass, glass electrical conductivity, glass microhardness

ABSTRACT: The effects of lead additions on the physical and semiconductor properties of glassy arsenic selenide have been studied. The $AsSe_{1.5}Pb_x$ alloys containing 0—12.0 at% Pb have been synthesized by vacuum melting at a maximum of 950C. The alloys with 0—2 at% Pb were air hardened in 5—8 min to room temperature; those with 3—5 at% were hardened in a stream of cool air (2—4 min to room temperature) or air hardened under less drastic conditions (longer time); alloys with 6—12 at% Pb were water-quenched in 1—2 min to room temperature. The x-ray data revealed the amorphous structure of alloys with 0—5 at% Pb and inclusions of the crystalline PbSe phase in alloys with 5—12 at% Pb. As the density of the alloys

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 35507-65

ACCESSION NR: AP5008266

increased with increasing of the Pb content, crystallization, undetected by x-ray, was assumed to take place in alloys containing less than 5 at% Pb. Electrical conductivity in the 20—125C range and microhardness of the glassy arsenic selenide were significantly affected by introducing lead, even in small amounts. Electrical conductivity decreased by a half order of magnitude in the samples containing up to 0.5 at% Pb, but increased by 3.5 orders of magnitude with an increase in the lead content from 0.5 to 5 at%. A further increase in conductivity with increasing of the lead content to 10 at% was much slower because of the appearance of a crystalline phase. The changes in calculated values of the activation energy of conductivity followed a reversed pattern. As conductivity is determined by the glassy phase, its slow increase, with the lead content of the alloys increasing over 5 at%, was attributed to the limited capacity of the glassy phase to absorb lead, which forms crystalline PbSe inclusions. A sharp increase in conductivity of the alloys with lead content over 10 at% is caused by the stop in blocking crystalline microinclusions. Conductivity of the alloy with 12% Pb is very close to that of PbSe, which is of the extrinsic type to ~70C in both. The calculated steric factor provided evidence of a transient type of conductance in glassy arsenic selenide-lead compounds. Similarity between electronic and ionic conductance was deduced from the adherence of the chalcogenide $AsSe_{1.5}M_x$ (M = Cu, Sn, Pb) glasses and ionic (borate and silicate) glasses to the empiric relation $\varepsilon_\sigma[M]^{1/x} = L$. Microhardness of the glassy

Card 2/3

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 35507-65

ACCESSION NR: AP5008266

alloys was maximum at 5—6 at% Pb. The decrease in microhardness with the increasing lead content was attributed to the break in continuity of the structure with appearance of the crystalline phase. Both electrical conductivity and microhardness of the $AsSe_{1.5}Pb_x$ alloys were greatly altered by the difference in cooling conditions. Orig. art. has: 3 figures and 2 tables. [JK]

ASSOCIATION: none

SUBMITTED: 24Jun64 ENCL: 00 SUB CODE: MM, EM

NO REF SOV: 007 OTHER: 001 ATD PRESS: 3215

Card 3/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 60421-65 EWT(1)/EWP(e)/EWT(m)/EWP(1)/EWG(m)/T/EWP(t)/EEC(b)-2/EWP(b) Pq-4/
Pi-4 IJP(c) RDW/JD/GG/GS/JAJ/WH

ACCESSION NR: AT5017274 UR/0000/65/000/000/0187/0198

40
B+1

AUTHOR: Shkol'nikov, Ye. V.

21

TITLE: The crystallization kinetics of vitreous arsenic selenide

27 27

SOURCE: Leningrad. Universitet. Khimiya tverdogo tela (Chemistry of solids). Leningrad, Izd-vo Leningr. univ., 1965, 187-198

15

TOPIC TAGS: arsenic selenide, glass crystallization, glass conductivity, vitreous semiconductor

15

ABSTRACT: The effect of short-range order on the electrical properties of glass during its crystallization was investigated. The process of slow volume crystallization of vitreous $As_2Se_3$ was studied by measuring the density and the low-temperature dependence of the electrical conductivity and microhardness. At 20C, a gradual drop in conductivity of 1.5 orders of magnitude was observed during crystallization of $As_2Se_3$. From the density data, the percent crystallization and rate constants of crystallization were calculated. The value of the activation energy of volume crystallization of $As_2Se_3$, determined after 50% crystallization had been reached, agreed with the activation energy of viscous flow of these glasses. The density, electrical conductivity and photoconductivity data obtained indicate that the short-range order is preserved in the structure of $As_2Se_3$ during

Card 1/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 60421-65

ACCESSION NR: AT5017274

the glass ⟶ polycrystal transition. Orig. art. has: 3 figures, 4 tables, and 9 formulas.

ASSOCIATION: None

SUBMITTED: 02Mar65 ENCL: 00 SUB CODE: MT, EM

NO REF SOV: 014 OTHER: 003

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 60419-65 EWT(1)/EWP(e)/EWT(m)/EWP(1)/EWG(m)/T/EWP(t)/EEC(b)-2/EWP(b) IJP(c)
RDW/JD/GG/GS/JAJ/WH

ACCESSION NR: AT5017275 UR/0000/65/000/000/0199/0207

33
B+1

AUTHOR: Shkol'nikov, Ye. V.

TITLE: Study of the electrical conductivity and microhardness of crystallizable glasses in the system AsSe sub 1.5 Sn sub x

15 21

SOURCE: Leningrad. Universitet. Khimiya tverdogo tela (Chemistry of solids). Leningrad, Izd-vo Leningr. univ., 1965, 199-207

TOPIC TAGS: glass conductivity, arsenic compound, selenium compound, tin compound, glass hardness

27 27

ABSTRACT: The effect of increasing tin content on the electrical conductivity and microhardness of $AsSe_{1.5}Sn_x$ glasses was studied. Both of these properties increase with rising tin content, while the absolute value of the conductivity ($-\log \sigma_{20C}$) goes through a minimum at a tin content of 4-5%. The most readily ionizable bonds in $AsSe_{1.5}Sn_x$ are the convalent Sn-Sn bonds, which are highly metallic in character. The crystallization of $AsSe_{1.5}Sn_x$ is associated with a marked increase in electrical conductivity, a simultaneous decrease in the energy of electrical conductivity $\epsilon_\sigma$, and a drop in microhardness. The accumulation of tetrahedral structural units $SnSe_{4/2}$ with $Sn^{IV}$-Se covalent bonds ($D \approx 48$ kcal/mole) should not cause any appreciable drop in $\epsilon_\sigma$; this was confirmed by

15

Card 1/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 60419-65

ACCESSION NR: AT5017275

experimental data. On the contrary, the accumulation of :$SnSe_{2/2}$ structural units with readily ionizable Sn-Sn bonds ($\epsilon_{\sigma^-} \simeq 0.14$ eV) causes a gradual decrease of $\epsilon_{\sigma^-}$. The observation of the empirical quantitative relation $\epsilon_{\sigma^-}[Sn]^{1/4}$ = const. in vitreous $AsSe_{1.5}Sn_x$ indicates that the mechanisms of electronic and ionic conductivity of the glasses are similar. Orig. art. has: 2 figures, 8 formulas and 2 tables.

ASSOCIATION: None

SUBMITTED: 02Mar65 ENCL: 00 SUB CODE: MT, EM

NO REF SOV: 009 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 02521-67 EWP(e)/EWT(m) WH

ACC NR: AP6022501 SOURCE CODE: UR/0054/66/000/001/0120/0128

AUTHOR: Shkol'nikov, Ye. V.; Borisova, Z. U.

ORG: none

42
B
15

TITLE: Structural-chemical characteristics of $AsSe_{1.5}Ge_x$ glasses

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 1, 1966, 120-128

TOPIC TAGS: glass product, glass property, crystal structure analysis, x ray analysis, hardness, specific density, electric conductance, arsenic compound, selenium compound, germanium compound

ABSTRACT: The complicated structural chemical transformations which take place in $AsSe_{1.5}Ge_x$ glasses as the germanium content is increased from 0 to 50 at .% were investigated. Results of analyses of temperature-specific conductance functions and glass density and microhardness measurements are evaluated and compared with the literature. In the 0-10 at .% Ge range the most probable components are $GeSe_{4/2}$ and the trigonal $AsSe_{3/2}$ and $As_2Se_{4/2}$. As the Ge content is increased to 10-29 at .% there is not enough Se for complete distribution between Ge and As atoms, and since Se reacts more with Ge, excess $As_2$

Card 1/2 UDC: 54-1-161.6

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 32050-66 EWP(e)/EWP(t)/ETI IJP(c) RDW/JD/WH

ACC NR: AP6013346 (A) SOURCE CODE: UR/0363/66/002/004/0670/0678

AUTHOR: Shkol'nikov, Ye. V.; Borisova, Z.U.

ORG: Chemistry Department, Leningrad State University (Khimicheskiy fakul'tet, Leningradskiy gosudarstvennyy universitet)

TITLE: Finely dispersed semiconducting glass crystals from arsenic selenide and tin

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 4, 1966, 670-678

TOPIC TAGS: arsenic compound, tin compound, selenium compound, glass, crystallization

ABSTRACT: Finely dispersed semiconducting glass crystals of high strength, microhardness and chemical stability were prepared by isothermal annealing of glasses of the composition $AsSe_{1.5}Sn_{0.278}$ (10 at. % Sn), and their crystallization was investigated. A study of the kinetics of isothermal transformation of such glasses led to the conclusion that their crystallization is a stepwise process, and that each step can be broken up into two overlapping processes: (1) devitrification and (2) associative diffusion of the crystals formed. On the basis of density measurements on the crystallized glass, the degree of devitrification was calculated, and the activation energy of this process and regularity of the crystalline nuclei were determined for each step. Orig. art. has: 4 figures, 3 tables, and 2 formulas.

SUB CODE: 11 / SUBM DATE: 07Jul65 / ORIG REF: 012 / OTH REF: 007

UDC 537.311.33:546.19'811'23

Card 1/1

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

MITKALINNYY, V.I., kand.tekhn.nauk; MOLCHANOV, N.G., kand.tekhn.nauk; Prinimali uchastiye: NEVEDOMSKAYA, I.N.; SHKOL'NIKOV, Yu.M.; VOLVENKIN, V.K.; RAYSKIY, R.N.; BELEN'KIY, A.M.; SKOBEL'TSIN, S.S.; FEY GZHU-MIN; CHAHAO TIN'-YUAN'

Improvement of bell-type furnaces for bright annealing. Stal' 22 no.4:365-367 Ap '62. (MIRA 15:5)

1. Moskovskiy institut stali.
(Furnaces, Heat-treating) (Annealing of metals)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, B.L., assistent; KAN'SHINA, N.F.

Struma ovarii. Kaz. med. zhur. no.2:71-72 Mr-Ap '62. (MIRA 15:6)

1. Kafedra akusherstva i ginekologii (zav. - prof. S.V. Kisin) Novokuznetskogo instituta usovershenstvovaniya vrachey.
(OVARIES--TUMORS)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, B.L.

Gynecological diseases among workers of the Kuznetsk Metallurgical Combine, and therapeutical measures taken. Zdrav. Ros. Feder. 6 no.3:26-30 Mr '62. (MIRA 15:4)

1. Iz kafedry akusherstva i ginekologii (ispolnyayushchiy obyazonnosti zaveduyushchego - dotsent R.I.Movshovich) Novo-Kuznetskogo instituta usovershenstvovaniya vrachey (dir. - dotsent G.L.Starkov).
(KUZNETSK—GYNECOLOGY)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

MOVSHOVICH, N.I., dotsent; SHKOL'NIKOVA, B.I.

Diathermic conization in some diseases of the cervix uteri. Sov. med. 27 no.10:118-122 O '63. (MIRA 17:6)

1. Iz kafedry akusherstva i ginekologii (zav. prof. E.M. Mazhbits) Novokuznetskogo instituta usovershenstvovaniya vrachey (rektor - dotsent G.L. Starkov).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, K.L.

USSR / Cosmochemistry. Geochemistry. Hydrochemistry. D

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 7874

Author : Por, F.L. , and Shkol'nikova, K.L.
Inst : Biology Institute of the Academy of Sciences of the Latvian SSR
Orig Pub : Tr. In-ta Biol. AN LatSSR, 1955, No 2, 247-292

Abstract : The results from studies carried out in the summer of 1952-53 are presented. The transparency, color index, water temperature and sediments, dissolved $O_2$ and $CO_2$, alkalinity, pH, dichromate and permanganate oxidizability, and phosphate, nitrate, Fe, $SO_4^{2-}$, $Cl^-$, $Ca^{2+}$, and $Mg^{2+}$ content of the investigated lakes were studied. The Lakes can be classified into two groups on the basis of organic matter content; the two groups of lakes are located at different heights above sea level. The first group (13 lakes) includes the reservoirs of the Augshzem, Latgal, and Eastern Vidzem ranges;

Card : 1/3

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

USSR / Cosmochemistry, Geochemistry, Hydrochemistry, D

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, No 7874

Abstract : of the water of the deeper lakes; in the case of transparency, the relationship is reversed. The data for the lakes of the second group are insufficient for the formulation of a similar conclusion. In a number of lakes a stratification into three layers was observed; in the remaining lakes, the usual summer stratification or homothermy was observed. The oxygen cycle in all the lakes except in the shallow Durbe and Pikster, in which winter freeze-ups are possible, is favorable. The mineralization of the lakes is average and below average; the total ion content varies between 251.5 and 108 mg/liter. The ion content varies of the shallow lakes is somewhat higher than that of the deeper lakes. The investigated lakes belong to the calcium group of the hydrocarbonate class. By their organic matter content, transparency, and color index, the Latvian lakes closely resemble the reservoirs in the Valdaya range but have a somewhat lower mineral content.

Card : 3/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

USSR /Chemical Technology. Chemical Products and Their Application I-14

Water treatment. Sewage water.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31705

the mixture is boiled for 10 minutes, cooled, and adjusted to 50 ml with distilled water, after which 1 ml of concentrated HCl is added, followed by 2 ml of KCNS or $NH_4CNS$ solution, and a colorimetric determination is carried out.

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, L.; KATKOV, O.

Outstanding construction workers of the country. Stroitel' 8 no.11:6-8 N '62. (MIRA 16:1)
(Construction industry)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOLNIKOVA, L.A.

Improved method of investigation by deep culture on blood medium. Probl. tub.no.6:63-66 N-D '54. (MLRA 8:1)

1. Iz Moskovskogo oblastnogo nauchno-issledovatel'skogo tuberkuleznogo instituta (i.o. direktora N.P.Gurskiy, zam. dir. po nauchnoy chasti - doktor meditsinskikh nauk D.D.Aseyev)

(CULTURE MEDIA
M. tuberc. on blood, method of investigation)
(MYCOBACTERIUM TUBERCULOSIS, culture
investigation method on blood medium)
(BLOOD
M. tuberc. culture on, method of investigation)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

USSR/Medicine - Tuberculosis FD-2315

Card 1/1 Pub 148 - 16/36

Author : Shkol'nikova, L. A.

Title : Submerged ("depth") seeding into a blood medium as a method for the prolonged preservation of live virulent tuberculosis strains

Periodical : Zhur. mikro. epid. i immun. No 2, 45-48, Feb 1955

Abstract : Conclude on the basis of the experiments described that freshly isolated and laboratory strains of tuberculosis bacilli preserve their vitality for a long period under conditions of submerged culturing in a blood medium. One reference, USSR, since 1940.

Institution : Moscow Oblast' Scientific Reserach Tuberculosis Institute

Submitted : June 22, 1954

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, L. A., Cand Med Sci -- (diss) " Accelerated Submerged ~~Growing~~ Cultivation of Tubercular Mycobacteria from Pathological Material." Mos, 1957. 16 pp (Min of Health USSR, Central Inst for the Advanced Training of Physicians), 200 copies (KL, 48-57, 110)



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOLNIKOVA

USSR / Physical Chemistry. Crystals B-5

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 25861

Author : Ye.A. Shugam, L.M. Shkol'nikova

Title : Study of Crystalline Structure of Aluminum and Chromium Acetylacetonates.

Orig Pub : Kristallografiya, 1956, 1, No 4, 478-482.

Abstract : An x-ray-structural study (methods of oscillations and of roentgenometer: λCu) of $(C_5H_7O_2)_3$ Al (I) and $(C_5H_7O_2)_3$Cr (II) was carried out in order to compare the structure of intracomplex compounds containing metal atoms with various electron configurations. The crystals were obtained in the shape of plates and hexagonal prisms. The lattice parameters of I are: a = 14.25, b = 7.68, c = 16.17 A, β = 99°30', ρ (meas.) = 1.30, ρ (roent.) = 1.27; same of II are: 13.80, 7.58, 16.44, 99°30', 1.39, 1.37, Z = 4, ph. gr. $P2_1/C$. On the basis of the isomorphism of the compounds, an identical spatial molecule model is proposed. The model is a de-

Card : 1/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHUGAM, Ye.A.; SHKOL'NIKOVA, L.M.

Chelate compounds containin the Me-S bond. Kristallografiia 3 no.6:749-750 '58. (MIRA 12:2)

1. Institut khimicheskikh reaktivov.
(Organometallic compounds) (Crystals)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

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PHASE I BOOK EXPLOITATION SOV/3910

Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov

Veshchestva vysokoy chistoty i reaktivy; sbornik statey (High Purity Substances and Reagents; Collection of Articles) Moscow, Gosknizdat, 1959. 186 p. (Series: Its:Trudy, vyp. 23) Errata slip inserted. 1,700 copies printed.

Sponsoring Agency: USSR. Sovet Ministrov. Gosudarstvennyy komitet po khimii.

Ed.: Yu.V. Lyanie; Tech. Ed.: Ye.G. Shpak; Editorial Board of Series: V.G. Brudz', V.M. Dziomko, R.P. Lastovskiy (Resp. Ed.), A.M. Lukin, G.E. Malkiel', G.I. Mikhaylov, G.A. Pevtsov (Deputy Resp. Ed.), and I.G. Shafran.

PURPOSE: This book is intended for personnel of chemical research and industrial chemical laboratories.

COVERAGE: The book contains 36 articles by affiliates of the Scientific Research Institute for Chemical Reagents (IREA) treating methods which may be adopted by different branches of industry in producing, analyzing, and studying inorganic and organic substances of high purity. Figures, tables, and references accompany each article. No personalities are mentioned.

Shafran, I.G. Chemical Methods of Determining Small Amounts of Impurities in a Number of High Purity Substances 88

Karanovich, G.G. Colorimetric Determination of Heavy Metals With the Aid of Thioacetamide 96

Bulgakova, A.M., A.M. Volkova, and G.S. Pletnikova. Determining Admixtures of Thallium in Sodium Iodide Single Crystals Activated by Thallium 102

Lukin, A.M., G.B. Zavarikhina, and N.S. Simonova. On the Problem of Analyzing Arylphosphonic Acids 106

Fratkin, Y.G., and N.G. Polivanova. Special Determination of Small Amounts of Iron in Selenium 113

Bozhevol'nov, Ye. A., and G.V. Serebryakova. Some Special Features of the Properties of Salicylaldehyde Semicarbazone as a Luminescent Acid-Base Indicator 116

Bozhevol'nov, Ye. A. Apparatus and Reagents for Luminescence Analysis 124

Dziomko, V.M., and K.A. Dunayevskaya. Synthesis of Some Azoxy Compounds and Their Reactions With Cations 138

Bozhevol'nov, Ye.A. The Connection Between Fluorescence and Structure in Organic Luminescent Indicators and Reagents 147

Shugam, Ye. A., and L.M. Shkol'nikova. Determination of the Elementary Cell and Space Group of the Sodium Salt of Cobalt (III)-ethylenediaminetetraacetic Acid 166

IV. REVIEWS

Brudz', V.G. Work of the Institute for Chemical Reagents for the [Past] Ten Years 169

AVAILABLE: Library of Congress

Card 6/6 JA/rn/cmp

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

AUTHOR: Shkol'nikova, L.M. SOV/70-4-3-22/32

TITLE: The γ-modification of Aluminium Acetylacetonate

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 3, pp 419-420 (USSR)

ABSTRACT: Acetyl acetonates of three-valent metals occur in three modifications α (monoclinic) and β and γ (orthorhombic). Al, Cr, Mn and Co have the α-form, Fe - the γ-form and Sc and In the β-form. Ga has all three forms. The $Co^{+++}$ compound has dimensions a = 14.25 ± 0.03, b = 7.50 ± 0.02, c = 16.38 ± 0.03 Å, β = 99° ± 1°, $d_{obs}$ = 1.40 g/cm$^3$, Z = 4 and space group $P\,2_1/c$. The γ-form of the Al compound can be made from a cold solution in acetone on rapid evaporation of the solvent (over several days). Deposition of this form is hindered by the α-form. The cell dimensions are: a = 15.72 ± 0.03, b = 13.35 ± 0.03, c = 32.80 ± 0.05 Å, $d_{obs}$ = 1.30 g/cm$^3$, Z = 16, corresponding to those of the Fe and Ga compounds. The space group is Pna2 as a piezoelectric test gives

Card1/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6



positive results. A new form of the Fe compound was obtained from ethereal solution or from $ChCl_3$ with $a = 15.48$, $b = 13.55$; $c = 16.55$ Å (all $\pm 0.03$), $Z = 8$, $d_{obs} = 1.32$ g/cm$^3$ with space group Pbca. It is related to the other forms by:

$$a \approx 2a_\beta \approx a_\gamma; \quad b \approx b_\beta \approx b_\gamma;$$

$$c \approx c_\beta \approx 1/2\, c_\gamma; \quad v \approx 2v_\beta \approx 1/2 v_\gamma .$$

Acetylacetonates of divalent metals have a less sharply expressed polymorphism. The Be compound had dimensions $a = 13.50 \pm 0.04$, $b = 11.30 \pm 0.04$, $c = 7.65 \pm 0.02$, $Z = 4$, $d_{obs} = 1.17$ g/cm$^3$ near to those found by Bullen (Ref 10). A piezoelectric test showed that the space group must be $P2_1$.



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

The γ-modification of Aluminium Acetylacetonate SOV/70-4-3-22/32

There are 10 Soviet references, 2 of which are Soviet, 3 English, 2 international and 3 Japanese.

ASSOCIATION: Vsesoyuznyy institut khimicheskikh reaktivov (All-Union Institute for Chemical Reagents)

SUBMITTED: January 15, 1959

Card 3/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHUGAM, Ye.A.; SHKOL'NIKOVA, L.M.

Determination of the unit cell and space group of sodium ethylenediaminetetraacetocobaltate (III). Trudy IREA no.23:166-168 '59. (MIRA 13:7)
(Cobalt compounds)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SOV/74-28-7-5/5

5(4)

AUTHORS: Shugam, Ye. A., Shkol'nikova, L. M.

TITLE: X-ray Structure Investigations of Intracomplex Compounds (Rentgenostrukturnyye issledovaniya vnutrikompleksnykh soyedineniy)

PERIODICAL: Uspekhi khimii, 1959, Vol 28, Nr 7, pp 889 - 901 (USSR)

ABSTRACT: The present paper gives a survey of the test results in the field of intracomplex compounds obtained by means of the X-ray structure method in the last 5 years. Just as in reference 1, the compounds referred to are the non-electrolytes. For easier presentation and systematization of experimental data according to structure the investigated intracomplex compounds were divided into groups based on the respective properties of the cycle-forming atoms of the ligand molecule. 1) Complexes in which the metal atom is linked with nitrogen and oxygen atoms: salicyl aldoximate of nickel $(C_6H_4OCHNOH)_2Ni$; dihydrate of the oxyquinolate of zinc $(C_9H_6NO)_2Zn.2H_2O$; dihydrate of the oxyquinolate of copper $Cu(C_9H_6ON)_2.2H_2O$; 5-chlorosalicyl aldoximate of bivalent nickel $(C_6H_3ClOCHNOH)_2Ni$ and palladium

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$(C_6H_3ClOCHNOH)_2Pd$; salicylal iminates of nickel $(C_7H_6ON)_2Ni$, copper $(C_7H_6ON)_2Cu$, and palladium $(C_7H_6ON)_2Pd$; N-methylsalicylal iminate of nickel $(C_8H_8ON)_2Ni$. 2) Complexes in which the metal atom is linked with nitrogen atoms: dimethylglyoximate of copper $(C_4H_6N_2O_2)_2Cu$. 3) Complexes in which the metal atom is linked with oxygen atoms: acetylacetonates of iron $(C_5H_7O_2)_3Fe$, chromium $(C_5H_7O_2)_3Cr$, aluminum $(C_5H_7O_2)_3Al$, nickel $(C_5H_7O_2)_2Ni$, thorium $(C_5H_7O_2)_4Th$ and beryllium $(C_5H_7O_2)_2Be$. 4) Complexes in which the metal atom is linked with sulfur and nitrogen atoms: 8-mercaptoquinolinates of zinc $(C_9H_6SN)_2Zn$, palladium $(C_9H_6SN)_2Pd$, and platinum $(C_9H_6SN)_2Pt$. 5) Complexes in which the metal atom is linked with sulfur atoms: diethyldithiocarbamate of nickel $[S_2CN(C_2H_5)_2]_2Ni$, copper $[S_2CN(C_2H_5)_2]_2Cu$, zinc $[S_2CN(C_2H_5)_2]_2Zn$ and lead $[S_2CN(C_2H_5)_2]_2Pb$. Cyclic grouping is characteristic of the structure of intracomplex compounds. This



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X-ray Structure Investigations of Intracomplex Compounds SOV/74-28-7-5/5

grouping is effected by metal atoms combining with two neutronophilic atoms of the organic molecule. This grouping and the type of the bond of the metal atom and the ligand molecule more or less determine the properties of the intracomplex compound. There are 5 figures and 72 references, 13 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy in-t khimicheskikh reaktivov (All-Union Scientific Research Institute of Chemical Reagents)

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SHKOL'NIKOVA, L. M., Cand Chem Sci -- (diss) "X-ray structure investigation of acetyl-acetonates of aluminum, chromium, and cobalt." Moscow, 1960. 18 pp; (State Committee of the Council of Ministers USSR for Chemistry, Order of Labor Red Banner Scientific Research Physical Chemistry Inst im L. Ya. Karpov); 150 copies; price not given; (KL, 17-60, 143)

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24.7100, 5.2100

78096
SOV/70-5-1-5/30

AUTHORS: Shkol'nikova, L. M., Shugam, Ye. A.

TITLE: Crystal and Molecular Structure of Chromium Acetylacetonate

PERIODICAL: Kristallografiya, 1960, Vol 5, Nr 1, pp 32-39 (USSR)

ABSTRACT: The authors observed that despite numerous studies, there exists an inadequacy of knowledge on acetylacetonates, and also contradictions in the interpretations of their interatomic bonds. The present study was aimed to determine the interatomic distances, the nature of metal-to-ligand bonds, and the delocalization of double-bonds in the six-member cycles of acetylacetonates. Preceding spectroscopic studies have shown the decrease of the energy of characteristic frequencies of C = O and C = C bonds, in other words, the delocalization of double bonds. The authors' previous study of $(C_5H_7O_2)_3$ Cr crystals (Kristallografiya, 1956, 1, 4, 478) disclosed 4 oxygen atoms at the vertices of a square around Cr

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atom, although the precise position of the square could not be established because of overlapped positions of O maxima on the electron density projections. The O maxima could now be resolved by using (001) projections instead of (010). The square of $O_3$, $O_4$, $O_5$, $O_6$ atoms (see Fig. 1) and one of the acetylacetone rings, parallel to the square, proved to be inclined to (010) of the first model under $15^{\circ}$. Considering the sides of the square to be a and c axes, and taking b axis under $15^{\circ}$ to $O_1CrO_2$ bond direction, a rearranged model was made. Referring to this model, the coordinates of 8 out of 15 C and of all O and Cr atoms were calculated by the method of three dimensional Fourier synthesis of the electron density distribution. On the basis of found coordinates and further refinement, the final model was made with b axis under $28^{\circ}$ to the $O_1CrO_2$ bond, and referring to this model, the coordinates of 4 more C atoms were determined and the others recalculated. The positions of the remaining 3 of



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C atoms were taken by a geometrical inspection of the model. The chromium acetylacetonate molecule as as a whole resembles an octahedron in which Cr occupies the body center and acetylacetone rings lie around Cr roughly in three planes under 90° to each other; C and O atoms are maximum at ± 0.06 A from the respective planes, except for $C_9$ and $C_{14}$ at 0.14 and 0.13 A, respectively. The mean bond angle at Cr is 93° (see Fig. 4). Here and in Cu and Ni acetylacetonates metal-to-oxygen distance is 1.90 A no matter whether or not the particular metal is able to form $\pi$-bond with p-electron of O. Apparently, $\sigma$-bond, if it occurs, is not strong and hardly reduces the interatomic distance below its value as the sum of covalent atomic radii.

In conclusion, the authors state that $\pi$-interaction of atoms is not likely to be the necessary condition for the delocalization of double bonds in



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Crystal and Molecular Structure of Chromium Acetylacetonate

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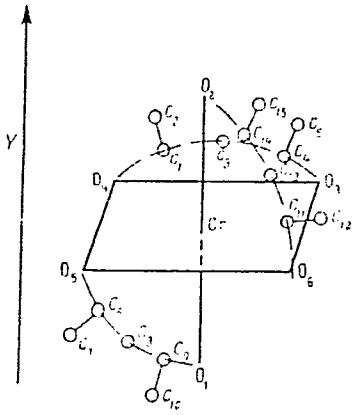

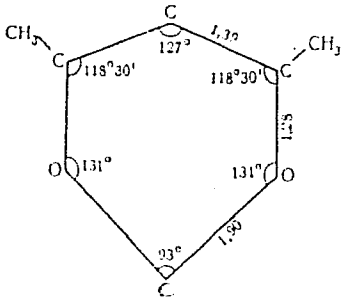


sum of angles 719°

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Crystal and Molecular Structure of Chromium Acetylacetonate

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Key to Table 1. (a) Atoms; (b) coordination from the third three dimensional synthesis

| (a) | (b) x | y | z |
|---|---|---|---|
| Cr | -0,239 | 0,246 | 0,219 |
| $O_1$ | 0,290 | 0,026 | 0,195 |
| $O_2$ | 0,178 | 0,465 | 0,230 |
| $O_3$ | 0,192 | 0,155 | 0,314 |
| $O_4$ | 0,116 | 0,176 | 0,156 |
| $O_5$ | 0,288 | 0,334 | 0,127 |
| $O_6$ | 0,362 | 0,314 | 0,284 |
| $C_1$ | 0,114 | 0,070 | 0,324 |
| $C_2$ | 0,104 | 0,024 | 0,415 |
| $C_3$ | 0,040 | 0,043 | 0,258 |
| $C_4$ | 0,044 | 0,099 | 0,176 |
| $C_5$ | -0,048 | 0,059 | 0,116 |
| $C_6$ | 0,341 | 0,264 | 0,078 |
| $C_7$ | (0,383 | 0,325 | 0,007) |
| $C_8$ | (0,363 | 0,086 | 0,084) |
| $C_9$ | 0,354 | —0,020 | 0,150 |
| $C_{10}$ | 0,382 | —0,216 | 0,140 |
| $C_{11}$ | 0,386 | 0,464 | 0,318 |
| $C_{12}$ | 0,490 | 0,490 | 0,364 |
| $C_{13}$ | 0,308 | 0,594 | 0,312 |
| $C_{14}$ | 0,203 | 0,599 | 0,278 |
| $C_{15}$ | (0,155 | 0,771 | 0,278) |

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Crystal and Molecular Structure of Chromium Acetylacetonate

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| (a) | | | |
|---|---|---|---|
| $Cr-O_1$ | 1,88 | $C_1-C_3$ | 1,36 |
| $Cr-O_2$ | 1,88 | $C_1-C_3$ | 1,43 |
| $Cr-O_3$ | 1,91 | $C_6-C_8$ | 1,39 |
| $Cr-O_4$ | 1,93 | $C_9-C_8$ | 1,37 |
| $Cr-O_5$ | 1,88 | $C_{11}-C_{13}$ | 1,38 |
| $Cr-O_6$ | 1,93 | $C_{14}-C_{13}$ | 1,40 |
| (b) | 1,90±0,03 | | 1,40±0,04 |
| $O_1-C_9$ | 1,29 | $C_1-C_2$ | 1,56 |
| $O_2-C_{11}$ | 1,32 | $C_4-C_5$ | 1,50 |
| $O_3-C_1$ | 1,29 | $C_6-C_7$ | 1,50 |
| $O_4-C_1$ | 1,24 | $C_9-C_{10}$ | 1,57 |
| $O_5-C_6$ | 1,28 | $C_{11}-C_{12}$ | 1,53 |
| $O_6-C_{11}$ | 1,28 | $C_{14}-C_{15}$ | 1,50 |
| | 1,28±0,04 | | 1,53±0,04 |

Table 3. (a) Interatomic spacing in a molecule of chromium acetylacetone; (b) average

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Crystal and Molecular Structure of Chromium Acetylacetonate

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acetylacetone cycles. They assume that displacement of electrons in the cycle due to the formation of -donor-acceptor bond can under favorable conditions lead to delocalization of double bonds. One of the favorable factors is the formation of six-member cycles having two conjugated bonds, since here $\pi$-bond is especially energetically favorable. There are 4 figures; 3 tables; and 20 references, 5 U.S., 5 U.K., 4 Soviet, 3 Danish, 2 Japanese, 1 German. The most recent U.S. and U.K. references are: R. P. Dryden, A. Winston, J. Phys. Chem., 62, 635, 1958; R. L. Belford, M. Calvin, G. Belford, J. Chem. Phys., 26, 5, 1165, 1957; E. Frasson, et al., J. Inorg. and Nucl. Chem., 8, 452, 1958; R. West, R. Riley, J. Inorg. and Nucl. Chem., 5, 4, 295, 1958; G. Costa, A. Puxeddu, J. Inorg. and Nucl. Chem., 8, 104, 1958.

ASSOCIATION: Institute of Chemical Reagents (Institut khimicheskikh reaktivov)

SUBMITTED: September 7, 1959

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

Shkol'nikova, L.M.

81864

5.3100

S/020/60/133/02/38/068
B016/B060

AUTHORS: Shugam, Ye. A., Shkol'nikova, L. M.

TITLE: On the Chemical Bond in the Molecules of Acetyl Acetonates of Trivalent Metals

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 2, pp. 386-387

TEXT: The authors studied the isomorphous crystals of acetyl acetonates, of aluminum (I), chromium, and cobalt (III) by radiography. The said substances were separated from solutions in benzene, acetone or chloroform by slowly evaporating the solvent. Pictures were taken with copper radiation. The authors applied the method of isomorphous substitution. The values of the mean interatomic distances and of the valence angle in the molecules of I, II, and III are specified. In the acetyl acetates investigated, the metal atom forms 6 equivalent covalent bonds. The double bonds C=C and C=O are delocalized in the acetyl-acetone ring. The authors believe on the strength of the foregoing that the type of Me-O bond and the mentioned delocalization in the said ring are independent of the state of the electrons on the d-orbits of metal atoms. In the

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On the Chemical Bond in the Molecules of Acetyl Acetonates of Trivalent Metals

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molecules of the acetyl acetonates of transition metals which either possess or do not possess a nonseparated electron pair at the d-orbits, as well as in the molecule of the aluminum-acetyl acetonates, in the atom of which the d-electrons are missing, the double bonds are delocalized regardless of the nature of the metal atom (in accordance with D. N. Shigorin, Ref. 5). The authors believe on the basis of the values of the interatomic distances lying near I, II, and III, that no multiple Me-O bonds are formed with the participation of nonseparated pairs of the d-electrons of the metal atom and of the $p\pi$-electron of the oxygen of the acetyl acetone ring (contrary to Refs. 6, 7). The $\tau$-bonds of Me-O completing the system of conjugate C=O and C=C bonds by a third double bond on the delocalization of the double bonds, apparently have another nature which is in no relationship with the d-electrons of the metal atom. The p-orbits of the metal atom (Ref. 9) are possibly utilized in the common system of the $\pi$-interaction in the acetyl acetone ring. The assumption according to which the d-electrons of the metal atom do not participate in the multiple Me-O bonds, is in agreement with conceptions regarding the crystalline field. On the strength of experimental data, the acetyl acetone group $C_5H_7O_2^-$ does not form any strong crystalline field (Ref. 8). Con-

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On the Chemical Bond in the Molecules of Acetyl Acetonates of Trivalent Metals

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sequently, it is not able to bring about a forced pairing of d-electrons. This group is just as little able to effect a strong change in the energetic state of these electrons or to enter into interaction with them. The magnetic moments confirm this: nickel- and iron cyanide are diamagnetic or at any rate possess a reduced spin, while nickel- and iron-acetyl acetonate are paramagnetic, with the magnetic moment of the latter corresponding to five unpaired electrons. There are 10 references: 7 Soviet, 1 American, 1 German, and 1 Scandinavian.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov (All-Union Scientific Research Institute of Chemical Reagents)

PRESENTED: March 4, 1960, by A. N. Nesmeyanov, Academician

SUBMITTED: February 23, 1960

Card 3/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, L.M.; SHUGAM, Ye.A.

Crystal structure of cotalt (III) acetylacetonate. Zhur. strukt. khim. 2 no.1:72-73 Ja-F '61. (MIRA 14:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov.

(Cobalt compounds)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHUGAM, Ye.A.; SHKOL'NIKOVA, L.M.

Concerning the article by M.A. Porai-Koshits and M.P. Zorkii "Laws governing the structure of inner complex compounds of copper and nickel." Zhur.strukt.khim. 2 no.5:619-620 S-O '61. (MIRA 14:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut reaktivov.
(Copper compounds) (Nickel compounds)
(Porai-Koshits, M.A.) (Zorkii, M.P.)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHUGAM, Ye.A.; SHKOL'NIKOVA, L.M.

Using the statistical method for determining the space group of copper pyridinate. Kristallografiia 7 no.4:534-536 Jl-Ag '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov.

(Pyridine) (Crystallography)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, L.M.; SHUGAM, Ye.A.

X-ray diffraction study of copper (II) cupferronate (nitrosophenylhydroxylaminate). Zhur. strukt.khim. 4 no.3:380-386 My-Je '63. (MIRA 16:6)
(Copper compounds) (X-ray diffraction examination)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, L.M.; SHUGAM, Ye.A.

Crystallochemical data of the inner-complex compounds of N-substituted derivatives of salicylalimine. Part 2: Copper and nickel salicylal alkyl iminates. Zhur. strukt. khim. 5 no.4:590-593 Ag '64. (MIRA 18:3)

1. Institut khimicheskikh reaktivov i osobo chistykh veshchestv.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

PLYUSHCHEV, V. Ye.; SHKLOVER, L.P.; SHKOL'NIKOVA, L.M.

Composition and structural data of the formates of elements in the lanthanum-holmium series. Zhur. strukt. khim. 5 no.5: 794-796 S-O '64 (MIRA 18:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova i Institut khimicheskikh reaktivov i osobo chistykh veshchestv.

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L 39302-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(b) IJP(c) JD/JG

ACCESSION NR: AP5004597 S/0020/65/160/002/0366/0369

AUTHOR: Plyushchev, V. Ye.; Shklover, L. P.; Shkol'nikova, L. M.; Kuznetsova, G. P.; Nadezhdina, G. V.

TITLE: Properties of rare earth formates from lanthanum to holmium

SOURCE: AN SSSR. Doklady, v. 160, no. 2, 1965, 366-369

TOPIC TAGS: rare earth compound, polymorphism, isomorphism, differential thermal analysis, thermal stability

ABSTRACT: It is stated that the properties of rare earth formates are insufficiently known. Formates of Y, La and all lanthanides of the Pr-Ho series (except Pm) were synthesized by the reaction of freshly precipitated hydroxides with HCOOH. Ce(III) formate was synthesized by the dissolution of cerium carbonate in HCOOH. X-ray studies of polycrystalline samples indicate polymorphism of Ce, Pr, Nd, Sm and Gd formates and isomorphism of formates of all elements in the La-Ho series. In the investigated series of rare earth formates, there is a systematic decrease in the parameter a of the rhombohedral lattice which is apparently associated with lanthanide contraction. The authors determined the density of the above formates by the pycnometric method at 20±0.1° C. The solubility of these compounds was

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ACCESSION NR: AP5004597

determined by the isothermal method at 25, 40 and 50° C. Special attention was devoted to the thermal stability of rare earth formates. Formates were investigated simultaneously by means of thermogravimetric (TGA) and differential thermal analysis (DTA). On the basis of analysis of TGA curves the following dissociation schemes were proposed:

$$2Me(HCOO)_3 \rightarrow Me_2O_3 \cdot CO_2 \rightarrow Me_2O_3$$

where Me = La, Nd, Sm, Eu, Gd, Dy, Ho.

$$Ce(HCOO)_3 . 0.2\ H_2O \rightarrow CeO_2$$

$$6Pr(HCOO)_3 \rightarrow 3(Pr_2O_3 \cdot CO_2) \rightarrow Pr_6O_{11}$$

$$4Tb(HCOO)_3 \rightarrow 2(Tb_2O_3 \cdot CO_2) \rightarrow Tb_4O_7$$

Orig. art. has: 1 table, 2 figures.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

L 39302-65
ACCESSION NR: AP5004597

ASSOCIATION: Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Institute of Fine Chemical Technology)

SUBMITTED: 20Jun64 ENCL: 00 SUB CODE: IC

NO REF SOV: 011 OTHER: 015

Card 3/3 JO

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, L.M.; [illegible], N.V.

Crystalline modifications of a complex of copper monochloride with thiourea. Trudy IREA no.25:420-421 '63.

(MIRA 18:6)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

PLYUSHCHEV, V.Ye.; SHKLOVER, L.P.; SHKOL'NIKOVA, L.M.; KUZNETSOVA, G.P.; TRUSHINA, T.A.

Ytrium and erbium formates and their properties. Zhur. ob. khim. 35 no.10:1783-1790 O '65. (MIRA 18:10)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

[illegible], I.N., [illegible], V.V., MAKAREVICH, L.G.

Crystal chemical data on inner-complex compounds of N-substituted salicylalimine derivatives. Part 3:Copper (II) and cobalt (II) salicylal-N-aryl iminates. Zhur. strukt. khim. 6 no. 4:653 Jl-Ag 1965 (MIRA 19:1)

1. Nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh veshchestv i Moskovskiy fiziko-khimicheskiy institut. Submitted December 22, 1964.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

USSR/Medicine-Pathophysiology SHKOLNIKOVA, M D FD-2424

Card 1/2 Pub 17-7/21

Author : Shkol'nikova, M. D.

Title : On the neural regulation of the leukocyte component of the peripheral blood of tuberculosis patients.

Periodical : Byul eksp biol i med. 39, 27-31, Jan 1955

Abstract : Since there is no information in the literature on the character of non-conditioned and conditioned neural regulation of the circulatory system of tuberculosis patients, the author studied the nature of conditioned leukocytosis and its relation to the disease. He chose S. K. Kuseleva's method to study groups of patients of both sexes between 17 and 64 years old, with various forms of the disease. Leukocytes, erythrocytes and hemoglobin were included in the study. A leukocyte count was made before and after breakfast and one hour later. He found that during a flare-up of conditioned as well as non-conditioned digestive leukocytic reactions there was a decrease and not an increase in the numbers of leukocytes. In a number of cases it was possible to draw a parallel between the leukocyte conditioned digestive reaction and the clinical condition of the patient. During

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Card 2/2 FD-2424

deterioration of the conditioned digestive reaction there was a decrease of the number of leukocytes during an improvement, an increase. Author recommends a thorough study of the mechanism of the observed symptoms. 8 references, 8 USSR. 4 since 1940. graphs.

Institution: Experimental Division (Chief, Cand Med Sci G. S. Kan) of the Leningrad Scientific Research Tuberculosis Institute imeni A. Ya. Shternberg (Director A. D. Semenov.)

Submitted : May 17, 1954

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, M.D.

Effect of the tuberculosis antigen on the hematic system in animals. Report no.3:Formation of the conditioned leukocytic response to the administration of the tuberculosis antigen. Biul. eksp. biol. i med. 41 no.2:33-36 F ' 56. (MLRA 9:6)

1. Iz otdela eksperimental'noy patologii (zav.-kandidat meditsinskikh nauk G.S. Kan) Nauchno-issledovatel'skogo tuberkuleznogo instituta (dir.-prof. A.D. Semenov) Leningrad. Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Chernigovskim.

(TUBERCULIN, effects,
on leukocyte count, conditioned mechanism of action (Rus))
(LEUKOCYTE COUNT, effect of drugs on,
tuberculin, conditioned mechanism of action (Rus))

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, M.D.

Effect of the tuberculosis antigen on the blood system of animals. Report no.4:Reflex nature of leukocytosis and of bone marrow reaction to administration of a BCG culture. Biul.eksp.biol.med. 42 no.7:25-30. Jl '56. (MLRA 9:9)

1. Iz eksperimental'nogo otdela (zav. - kandidat meditsinskikh nauk G.S.Kan) Leningradksogo nauchno-issledovatel'skogo tuberkuleznogo instituta (dir. - prof. A.D.Semenov, nauchnyy konsul'tant - deystvitel'nyy chlen AMN SSSR prof. V.N.Chernigovskiy) Predstavleno deystvitel'nym chlenom AMN SSSR V.N.Chernigovskim.

(MYCOBACTERIUM TUBERCULOSIS,
BCG, eff. on leukocyte count & bone marrow in animals (Rus))
(LEUKOCYTE COUNT, eff.of BCG cultures in animals (Rus))
(BONE MARROW, physiology, same)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

KOLESNIKOVA, I.S.; SHKOL'NIKOVA, M.D.

Characteristics of unconditioned and conditioned reactions to nicotinic acid in tuberculous patients. Probl.tub. 37 no.5: 83-88 '59. (MIRA 12:10)

1. Iz laboratorii eksperimental'noy patologii i terapii (zav. G.S.Kan) legochnogo otdeleniya Leningradskogo instituta tuberkuleza (zam.direktora po nauchnoy chasti - prof.A.D.Semenov, nauchnyy konsul'tant - deystvital'nyy chlen AMN SSSR prof.V.N. Chernigovskiy).

(TUBERCULOSIS - blood)
(NICOTINIC ACID - pharmacology)
(REFLAX, CONDITIONED - pharmacology)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, M.D.

Study of the sorption peoperties of the cerebral cortex of white mice in hematogenic tuberculosis. TSitologiia 2 no.2:153-160 Mr-Ap '60. (MIRA 14:5)

1. Laboratoriya eksperimental'noy patologii i terapii Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza.
(SORPTION) (CEREBRAL CORTEX) (TUBERCULOSIS)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

KOLESNIKOVA, I.S., mladshiy nauchnyy sotrudnik; SHKOL'NIKOVA, M.D., starshiy nauchnyy sotrudnik

Characteristics of the interoceptive reflexes to nicotinic acid in pulmonary tuberculosis. K izuch.roli nerv.sist.v pat., immun.i lech.tub. no.2:74-79 '61. (MIRA 15:10)

1. Iz laboratorii eksperimental'noy patologii i terapii (zav. - G.S.Kan) Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza.
(TUBERCULOSIS) (REFLEXES) (NICOTINIC ACID)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, M.D., starshiy nauchnyy sotrudnik

Change in the sorption of the cerebral cortex, muscle and the kidney of white mice during the period of immunization and superinfection. K izuch.roli nerv.sist.v pat., immun.i lech.tub. no.2:262-270 '61. (MIRA 15:10)

1. Iz laboratorii eksperimental'noy patologii i terapii (zav. - G.S.Kan) Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza.

(IMMUNITY) (TUBERCULOSIS) (SORPTION)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

KAN, Ye.L., starshiy nauchnyy sotrudnik; SHKOL'NIKOVA, M.D., starshiy nauchnyy sotrudnik

Study of the changes in the blood system during the formation of antituberculosis immunity and following superinfection. K izuch. roli nerv.sist.v pat., immun.i lech.tub. no.2:271-280 '61. (MIRA 15:10)

1. Iz laboratorii eksperimental'noy patologii i terapii (zav. - G.S.Kan) Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza.

(IMMUNOHEMATOLOGY) (TUBERCULOSIS)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOLNIKOVA, M. D.

"Influence of heating on the rate protoplasmic streaming and cellular resistance of plants."

UNESCO - International Symposium on the Role of Cell Reactions in Adaptations of Metazoa to Environmental Temperature.

Leningrad, USSR, 31 May - 5 June 1963

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, M.G.

114-8-9/16

AUTHOR: Kaganovich, I.S., and Shkol'nikova, M.G., Engineers.

TITLE: Damping springs and their manufacture. (Dempfernyye pruzhiny i tekhnologiya ikh izgotovleniya)

PERIODICAL: "Energomashinostroyeniye" (Power Machinery Construction), 1957, Vol.3, No.8, pp. 28 - 30 (U.S.S.R.)

ABSTRACT: In the development of multi-cylinder diesel engines torsional oscillations with frequencies of up to 25 000 oscillations per minute have become important. Dangerous vibration may be avoided either by making the critical speeds outside the working range or by the provision of dampers. In practice dampers have recently become extensively used particularly those of the MAN type.

The most important part of this damper is a packet of circular springs often consisting of about twelve leaves 55 mm wide; the leaves are thinner near the inside. The damper mass is appropriately selected and the damper is adjusted by altering the number of packets of springs which are arranged in two or three rows across its width. The final selection of the number of packets of springs is made after assembly on the basis of test results.

A spring characteristic showing a hysteresis loop is given in Fig. 3.

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RISMAN, M.B. [Rysman, M.B.]; BAKALOR, M. Yu.; SHKOL'NIKOVA, N.B. [Shkol'-nykova, N.B.]; GRABOVSKIY, P.A. [Hrabovs'kyi, P.A.]

Fusion sealing of seams and cuts on articles made from nylon fabrics. Leh. prom. no.2:51-52 Ap-Je'64 (MIRA 17:7)

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L 32096-65 FSF(h)/FSS-2/EWT(1)/FS(v)-3/EEC(k)-2/EWG(s)-2/EWG(v)/EWA(d)/EEC(t)
Po-4/Pe-5/Pq-4/Pi-4/Pae-2 TT/GW

ACCESSION NR: AR5005695 S/0313/64/000/009/0008/0008

SOURCE: Ref. zh. Issledovaniye kosmicheskogo prostranstva. Otd. vyp., Abs. 9.62.53 45 B

AUTHORS: Lur'ye, M. A.; Shkol'nikova, N. L.

TITLE: Estimate of the accuracy of the visual observations of the 1960 $\varepsilon_3$ satellite made by the SSSR stations 12

CITED SOURCE: Byul. st. optich. nablyudeniya iskusstv. sputnikov Zemli, no. 35, 1962 (1963), 3-6

TOPIC TAGS: satellite observation 12, observation accuracy, satellite position, satellite position deviation/ Epsilon sub 3

TRANSLATION: An estimate of the quality of visual observations of the cabin of the first space ship (1960 $\varepsilon_3$) by Soviet stations in 1961 was carried out relative to the deviations of the observed positions of the object from those calculated for the same instants. Out of a total of 2,677 observations, 51.4% had

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L 32096-65

ACCESSION NR: AR5005695

errors 0.0 to 0.5°, 16.7% -- 0.5 to 1.0°, 8.7% -- 1.0 to 2.0°, and 23.2% -- above 2°. The results are discussed briefly. A. K.

SUB CODE: SV ENCL: 00

Card 2/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOLNIKOVA, R.I.

137-58-5-11228

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 332 (USSR)

AUTHOR: Shkol'nikova, R. I.

TITLE: Coagulation of Aerosols by the Action of Sonic and Ultrasonic Vibrations (Koagulyatsiya aerozoley pod deystviyem zvukovykh i ul'trazvukovykh kolebaniy)

PERIODICAL: Byul. Tsentr. in-t inform. M-va tsvetn. metallurgii SSSR, 1957, Nr 1, pp 17-23

ABSTRACT: The mechanism of coagulation of dust, effected by the action of ultrasonic waves, is examined together with the design and operation of ultrasonic generators. Fields in which ultrasonic coagulation of dust may be employed are also discussed.

Ye. L.

1. Aerosals--Coagulation 2. Vibration--Applications

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, R.I.

Solubility of gases in colloidal systems. Uch.zap.LGU no.272: 64-86 '59. (MIRA 13:1)
(Gases) (Colloids)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549710008-6

SHKOL'NIKOVA, R.I., kand.khimich.nauk

Acoustical coagulation of aerosols in the technique of dust collection. Bor'ba s sil. 5:14-20 '62. (MIRA 16:5)

1. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy nikelevoy promyshlennosti.
(Dust—Removal) (Aerosols)

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