"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, P.P.; PROKHOROV, A.M.

Spin-lattice relaxation of the Fe^{3+} ion in $K_3(Co,Fe)(CN)_6$. Fiz. tver tela 5 no.9:2722-2723 S '63. (MIRA 1[illegible])

1. Fizicheskiy institut im. P.N.Lebedeva AN SSSR, Moskva.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

ZHEYENBAYEV, Zhenybek Zhevenbayevich; [illegible]; LIBENSON, David Yakovlevich [deceased]; PASHININ, Pavel Pavlovich; ALYBAKOV, A., otv. red.

[Optical pumping and its technical application] Opticheskoe nakachivanie i ego tekhnicheskoe primenenie. Frunze, Izd-vo AN Kirgiz.SSR, 1964. [illegible] p. (MIRA 17:[illegible])

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, P. P.

"Air breakdown by laser radiation."

report presented at the Int. Conf. on Laser [illegible] 12-14 Oct 64.

P. N. Lebedev Physical Inst, AS USSR, Moscow

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

L 18604-65 EWG(j)/EWA(k)/FBD/EWT(1)/EEC(k)-2/EEC(t)/T/EEC(b)-2/EWP(k)/EWA(m)-2/EWA(h) Pn-4/Po-4/Pf-4/Peb/Pi-4/Pl-4/ BSD/AFWL/ASD(a)-[illegible]/[illegible]/ASMP-2 AFETR/SSD/TSD(gs)/[illegible](t) WG

ACCESSION NR: AP5000364 S/0056/64/047/005/2003/2005

AUTHOR: Mandel'shtam, S. L.; Pashinin, P. P.; Prokhindeyev, A. V.; Prokhorov, A. M.; Sukhodrev, N. K.

TITLE: Investigation of the "spark" created in the air by a focused laser beam

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 5, 1964, 2003-2005

TOPIC TAGS: laser, ruby laser, air breakdown, dielectric breakdown, laser beam spark

ABSTRACT: Experimental investigation of air breakdown in the focus of a Q-switched ruby-laser beam yielded the following preliminary results. The laser, with a 30-megawatt peak power, had an output pulse half-width of 50 μsec, a beam diameter of 12 mm, and an output beam energy of 1.5 J. The elongated spark produced in the air had an axial length of 10—15 mm; the threshold power sufficient to cause such a spark was found to be 5—10 megawatts. The entire air breakdown process was photographed with a high-speed SFR-2 camera at 625,000 frames per second. The resolution thus obtained was, however, inadequate to ana-

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

L 62764-65 EWA(k)/FBD/EWG(r)/EWT(1)/EEC(k)-2/T/EEC(b)-2/EWP(k)/EWA(m)-2/EWA(h)
Pm-4/Pn-4/Po-4/Pf-4/Pab/Pi-4/Pl-4 SOTR/IJP(c) WG

ACCESSION NR: AP5019225 UR/0056/65/049/001/0127/0134 67 66 B

AUTHOR: Mandel'shtam, S. L.; Pashinin, P. P.; Prokhorov, A. M.; Rayzer, Yu. P.; Sukhodrev, N. K.

TITLE: Investigation of a spark in the air due to a focused laser beam. II

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 127-134

TOPIC TAGS: gas breakdown, air breakdown, plasma heating, Doppler shift, laser beam scattering

ABSTRACT: This article is a continuation of an earlier work (S. L. Mandel'shtam, P. P. Pashinin, A. V. Prokhindeyev, A. M. Prokhorov, and N. K. Sukhodrev, ZhETF, 47, 2003, 1964), and presents the results of an experimental investigation of the initial shape of the laser-induced air breakdown. A 2—2.5-J ruby laser with a Q-switch (40 nanosecond duration) was used. The plasma temperature produced in the focal region was determined on the basis of the recombination radiation spectrum in the soft x-ray range ($\lambda \simeq 10$ Å) and was found to be 50—60 ev. The measurements were made by means of photon counters with aluminum and beryllium windows 3 and 8 mm in diameter, respectively. A study of laser emission scattered on plasma in-

Card 1/2

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ACCESSION NR: AP5019225

dicated that the ionization front moves toward the focusing lens with a velocity of $\sim 10^7$ cm/sec measured on the basis of the Doppler shift of the scattered light. The motion of the ionized region under these conditions can be explained in terms of three mechanisms: 1) the hydrodynamic mechanism, 2) the light mechanism, and 3) the successive breakdown mechanism. All three mechanisms were fully discussed by Raizer in an earlier article (ZhETF, 48, 1508, 1965). Under the experimental conditions in this work, the first mechanism is considered the most probable. Values for the velocity of the detonation wave front (105 and 133 km/sec) and the plasma temperature behind the plasma ($\sim 910 \cdot 10^3$ and $720 \cdot 10^7$ K), respectively, estimated on the basis of this mechanism are in satisfactory agreement with the experimental data. Orig. art. has: 1 table, 5 figures, and 7 formulas. [YK]

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 19Feb65 ENCL: 00 SUB CODE: SC,ME

NO REF SOV: 009 OTHER: 010 ATD PRESS: 4055

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

MAZING, M.A., kand.fiz.-matem.nauk; PASTINN, P.P., kand.fiz.-matem.nauk

Conference on atomic spectra and radiation processes held in England. Vest. AN SSSR 35 no.12:73 D '65.

(MIRA 19:1)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

L 25284-65 EWG(j)/EWA(c)/FBD/EWT(1)/EWP(e)/EEC(k)-2/EEC(t)/T/EEC(b)-2/EWP(k)/EWP(m)/EWA(m)-2/EWA(h) Pn-4/Po-4/Pf-4/Pi-4/Pl-4/Peb IJP(c) WG/WH

ACCESSION NR: AP5004381 S/0056/65/048/001/0106/0110

AUTHOR: Gvaladze, T. V.; Krasyuk, I. K.; Pashinin, P. P.; Prokhinčeyev, A. V.; Prokhorov, A. M.

TITLE: Characteristics of a ruby laser with pulsed Q-modulation

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 1, 1965, 106-110

TOPIC TAGS: ruby laser, laser, Q modulation, Q spoiler, laser experiment, laser beam spectroscopy, laser induced air breakdown

ABSTRACT: An experimental study has been made of a ruby laser with an output power of up to 50 Mw for a pulse length of 40—50 nanoseconds. The ruby rod was 115 mm long, 12 mm in diameter, water cooled, and coated at the ends. The Q-modulator was a total-internal-reflection prism rotating at 425 rps. The semitransparent mirror was of the chemically deposited dielectric type, with reflection coefficient varying from 70 to 16% (substrate without coating). High-power pumping produced two separate output pulses. Gain was plotted as a function of pumping energy, using an elliptical reflector and an IFP-5000 lamp. The value of gain was determined with respect to the threshold power and various reflection coefficients

Card 1/2

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L 25284-65

ACCESSION NR: AP5004381

of the mirrors without the Q-spoiler. It was possible to obtain a gain over 0.25 cm^{-1} in the central regions of the crystal with coated ends. Using the Q-spoiler, maximum energy per pulse was obtained with a K-8 glass substrate without dielectric coating for the mirror. The experiment thus confirmed the theoretical conclusion that high-transmittivity mirrors are preferable if gain is large enough and internal losses small. The spectrum of the laser output beam consisted of from 1 to 7 narrow lines, some of which broadened to a maximum of 0.15 cm^{-1} with increased pump power. The total width of the spectrum was 1.5 cm^{-1} at low power, and narrowed down to a mean of 0.6 cm^{-1} at higher power. A mirror substrate less than 3 mm thick produced a single line 0.1 cm^{-1} wide with very good directivity. This is considered one of the most convenient methods of producing narrow-line giant pulses at room temperature. Focusing of the beam in air produced a spark at output powers of 5—10 Mw. An uncoated mirror impervious to burnout was used in the spark experiments. Orig. art. has: 10 formulas and 1 figure. [SK]

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences, SSSR)

SUBMITTED: 18Jul64 ENCL: 00 SUB CODE: EC

NO REF SOV: 004 OTHER: 006 ATD PRESS: 3134

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

L 42104-66 [illegible]
ACC NR: [illegible]

[illegible]: Pashinin, [illegible] (Candidate of physico-mathematical [illegible]); Mazing, [illegible]
ORG: none

TITLE: [illegible]

SOURCE: AN SSSR. Vestnik, no. 12, [illegible]

TOPIC TAGS: absorption spectrum, laser application, elastic scattering, [illegible] copy, electron, nuclear physics conference

ABSTRACT: Several Soviet physicists attended the Conference on Atomic Spectra and Radiation Processes held in Oxford, England on 12-14 April, 1965. P. P. Pashinin (Lebedev Institute) presented a paper on laser-induced air breakdown. M. A. Mazing (Lebedev Institute) reported on a spectroscopic method of investigating the elastic scattering of slow electrons by nuclei. N. P. Penkin (Leningrad State University) announced the results of his latest studies of absorption spectra of group II and III atoms by means of D. S. Pozndestvenskiy's method of "hooks." [illegible]

SUB CODE: 20/ SUBM DATE: none/

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

L 29732-66 EWT(1) IJP(c) AT

ACC NR: AP6018343 SOURCE CODE: GE/0036/66/006/001/0001/0008

AUTHOR: Mandel'shtam, S. L.; Pashinin, P. P.; Prokhorov, A. M.; Ravzer, Yu. P.; Sukhodrev, N. K.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Investigation of a spark in air formed during focusing of emissi[illegible] a laser

SOURCE: Beitrage aus der Plasma Physik, v. 6, no. 1, 1966, 1-8

TOPIC TAGS: ~~laser, nonlinear optics, air breakdown~~ laser emission, [illegible] laser beam, ruby laser, plasma temperature, line shift, Doppler shift

ABSTRACT: An experimental investigation was conducted of air breakdown [illegible] Q-switched ruby laser (pulse energy 2—2.5 J, pulse duration 30 [illegible] analyzed the last two stages of the breakdown process, which [illegible] subdivided into the following three stages: 1) the breakdown stage [illegible] the number of free electrons); 2) the quasi-stationary stage [illegible] tained by the absorption of energy of the laser beam); and 3) the [illegible] (decay of plasma after the laser pulse ceases). From the soft x-ray [illegible] plasma (at about 10 Å) due to continuous recombination of [illegible] the maximum electronic temperature of the plasma [illegible] the breakdown temperature [illegible] to be ≈ 60 ev. The width of the laser line scattered by the plasma during the [illegible] stage was determined to be ≈ 1—1.4 Å; the shifting of the line was found to vary at different positions near the focal region of the laser beam with the maximum [illegible]

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ACC NR: AP6018343

= 3.2 Å (the focal length of the lens was [illegible] mm). The displacement [illegible] region toward the laser beam causing the Doppler shift of the line was attributed to the formation of a shock wave which intensely absorbed the laser light. A study of the third stage by high-speed photography (655,000 frames/sec) showed that the breakdown region expands during the first 3—5 μsec after the passage of the pulse and then decays during the next 30—40 μsec. The spectrum of the plasma in the visible range during the third stage showed the presence of NII, DII, and NI and H2. The electronic temperature during this stage was estimated to be about 3—6 x 10^4K. Orig. art. has: 6 figures, 6 formulas, and 1 table. [CS]

SUB CODE: 20/ SUBM DATE: 08Jun65/ ORIG REF: 010/ OTH REF: 010/ ATD PRESS: 5113

Card 2/2 CC

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

BASSALSKIY, M.P., inzh.; PASHININ, S.A., inzh.

It is possible to lengthen the service life of ties. [illegible]
khoz. 6 no.5:11-13 '62. [illegible]
(Railroads Ties)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, S.A., inzh.

New stage of track machinery stations. Zhel.-dor.transp. 45 no.12:22-28 D '63. (MIRA 17:2)

1. Zamestitel' nachal'nika Glavnogo upravleniya puti i sooruzheniy Ministerstva putey soobshcheniya.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, S.A.

Needed type of rail-laying machinery. Puti i put. khoz. [illegible] Ap '59. (MIRA 1[illegible])

1. Nachal'nik tresta "Rekput'".
(Railroads--Track)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, S.A.

Increase the utilization of machinery and mechanisms. Put' i put. khoz. 4 no.2:28-29 F '60. (MIRA 13:5)

1. Nachal'nik tresta "Rekput'".
(Railroads--Equipment and supplies)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, S.A., inzh.

Expansion and eqiupment of the crused stone industry.
Zhel.dor.transp. 43 no.11 31-36 N '61. (MIRA 14:11)

1. Zamestitel' nachal'nika Glavnogo upravleniya puti i sooruzheniy Ministerstva putey soobshcheniya.
(Stone, Crushed)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, S.A.

Station track machinery - a powerful production base. Put' i put.khoz. no.11:32-35 N '57. (MIRA 10:11)

1. Nachal'nik tresta "Rekput'."
(Railroads--Equipment and supplies)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, S.A., inzhener.

More machinery for roadway machinery stations. Put' i put. khoz. no.1: 14-15 Ja '57. (MLRA 10:4)
(Railroads--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, S.A., inzh.

Reserves for increasing efficiency in the use of track machinery. Zhel.dor.transp. 40 no.10:51-55 O '58. (MIRA 11:12)
(Railroads--Equipment and supplies)
(Railroads--Track)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

BLOKHIN, Konstantin Agapovich; PASHININ, Sergey Afanas'yevich; CHLENOV, M.T., kand. tekhn. nauk, retsenzent; MALICHAYEV, V.N., inzh., retsenzent; BORISOV, V.M., inzh., retsenzent; MELENETS, V.V., inzh., retsenzent; SERGEYEVA, A.I., inzh., red.; BOBROVA, Ye.N., tekhn. red.

[Track overhauling operations]Kapital'nye putevye raboty. Moskva, Transzheldorizdat, 1962. 326 p. (MIRA 15:12)
(Railroads—Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, S.A.

For a new upswing of the railway store industry. Put' i sooruzh. 2 no.8:1-4 '64. (MIRA 17:4)

1. Zamestitel' nachal'nika Glavnogo upravleniya puti i sooruzheniy Ministerstva putey soobshcheniya.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, T.I.

Improve the organization of raw leather processing and supply. Khozh.-obuv.prom. 4 no.12:4-7 D '62. (MIRA 16:1)
(Leather industry)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, T.I.

Better organization of animal slaughter and primary processing of hides and skins. Kozh.-obuv.prom. no.12: 9-12 D '59. (MIRA 13:5)
(Kazakhstan--Hides and skins)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININ, T.I.

[redacted]

It is imperative to improve the quality of raw hides produced in Kazakhstan. Leg.prom. 17 no.6:10-11 Je '57. (MIRA 10:8)

1. Upolnomochennyy Glavkozhsyr'ya Kazakhskoy SSR.
(Kazakhstan--Hides and skins)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

CHUMBALOV, T.K.; PASHININA, L.T.

Study of the catechins of the mountain rhubarb. Biokhimiia 27 no.4:651-655 Jl-Ag '62. (MIRA 15:11)

1. The Kasakh State University, Alma-Ata.
(RHUBARB) (CATECHOL)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

L 52542-65 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1) Pd-1

ACCESSION NR: AP5010183 UR/0373/65/000/001/0029/0033

AUTHORS: Ivanilov, Yu. P. (Moscow); Pashinina, L. V. (Moscow)

TITLE: Stability of long waves in the flow of a viscous incompressible liquid

SOURCE: AN SSSR. Izvestiya. Mekhanika, no. 1, 1965, 29-33

TOPIC TAGS: stability criterion, viscous flow, incompressible fluid, Reynolds number, equation of motion, perturbation method, surface wave

ABSTRACT: The flow stability of a viscous incompressible fluid over an open inclined plane was studied analytically. The liquid free surface is described by

$$y = 1 + \eta(x, t).$$

The equations of motion for the liquid and the boundary conditions are linearized in terms of small perturbations φ and f

$$\psi = \chi + \varphi, \eta = \zeta + f.$$

At the free boundary φ is expressed by $\theta(x,t)$, and the linearized dimensionless set of equations of fluid motion are given by

Card 1/3

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ACCESSION NR: AP5010183

$$-\theta_x - {}^{3}/_{2}\theta\zeta' = (\sigma + {}^{15}/_{4}\zeta')\, f + {}^{3}/_{2}(1 + 2\zeta - 2\zeta^2)\, f_x$$

$$^{111}/_{280}R\,(1+\zeta)\,\theta_x + [1 - 3\zeta + {}^{9}/_{14}R\zeta' + 2\sigma/_{5}R\,(1-\zeta) + 6\zeta^2]\,\theta =$$
$$= [{}^{3}/_{2} - {}^{3}/_{2}\zeta - 3\zeta' + 2\zeta^2 + \sigma/_{40}R\,(1+\zeta)]\, f + [-{}^{9}/_{112}R\,(1+3\zeta)$$
$$- {}^{1}/_{3}RF^2\cos\alpha]\, f_x$$

The flow will be stable if the solution damps with time, unstable if it grows as $t \to \infty$. To establish this stability criterion, solutions for f and θ are assumed in the form $f(x)\exp(\sigma t)$ and $\theta(x)\exp(\sigma t)$ respectively. A critical Reynolds number is determined which is expressed by

$$R_* = R_0 + {}^{3906}/_{1308}\,(18 - 5F^2\cos\alpha)\,R_0/\lambda^2$$

This shows that for the wavelength $\lambda \to \infty$, R_* tends to $R_0 = 5/6$ ctg α (α = angle of inclination). Increasing R, the critical value of λ decreases. For $R < R_0$, only a parallel flow exists without waves, whereas for $R > R_0$ a stable flow can exist only with wave motion. "The authors are indebted to V. S. Sorokin for his critique of the work." Orig. art. has: 20 equations and 1 figure.

ASSOCIATION: none

Card 2/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

L 52542-65
ACCESSION NR: AP5010183

SUBMITTED: 26Oct64 ENCL: 00 SUB CODE: ME

NO REF SOV: 004 OTHER: 003

Card 3/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININA, Ye.I.; SHEVLYAGINA, Ye.V., RUTKOVSKAYA, R.A.

Use of the Khotuntsev-Pushkin colloid mill in the production of toothpastes. Trudy VNIISNDV no.6:173-179 '63. (MIRA 17:4)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

SHEVLYAGINA, Ye.V.; VOYTSEKHOVSKAYA, A.L.; PASHININA, Ye.I.

Stabilization of stone-fruit oils during storage. Trudy VNIISNDV no.4:119-125 '58. (MIRA 12:5)
(Oils and fats--Storage)
(Antioxidants)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHININA, Ye.I.; SHEVLYAGINA, Ye.V.; RUTKOVSKAYA, K.A.

Efficient methods for preparing emulsifying creams. Report No.1: Meleshin's device for cooling emulsifying creams of the water-oil type. Trudy VNIISNDV no.5:161-165 '61. (MIRA 14:10)
(Cosmetics) (Emulsifying agents)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

ACCESSION NR: AP4019483 S/0078/64/009/003/0526/0529

AUTHOR: Buketov, Ye. A.; Ugorets, M. Z.; Pashinkin, A. S.

TITLE: The solubility product and entropy of sulfides, selenides and tellurides

SOURCE: Zhurnal neorg. khimii, v. 9, no. 3, 1964, 526-529

TOPIC TAGS: solubility product, entropy, sulfide, selenide, telluride hydrochemistry, hydrometallurgy

ABSTRACT: In studying hydrochemical and hydrometallurgical processes, regulation of the solubility product is useful to explain problems in the development of ore formation and migration of elements in the crust. Data for the pL inverse logarithm of the solubility product of selenides and tellurides available in the literature, or computed from thermochemical data are used to explain the relation between the pL of sulfides, selenides and tellurides. Thermochemical data not found in the literature were computed by methods of approximation. Since calculation of solubility product values from thermochemical data assumes a preliminary estimate of the entropy value of corresponding compounds, empirical relations between the values of entropy of sulfides, selenides and tellurides are determined

Card 1/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

ACCESSION NR: AP4019483

simultaneously. After analysis of results the following is obtained:

$$S_{Se} = 1.04\ S_S + 1.40$$
$$S_{Te} = 1.07\ S_S + 3.69$$

where S_S, S_{Se}, S_{Te} are entropies of sulfides, selenides and tellurides of corresponding metals. The relationship of the pL of selenides and tellurides to the pL of sulfides are expressed by equations:

$$pL_{pSe} = 7.11 \times pL_{pS}^{0.62} - 17.18$$

$$pL_{pTe} = 14.52 \times pL_{pS}^{0.48} - 26.88$$

where pL_{pS}, pL_{pSe}, pL_{pTe} are inverse logarithms of the solubility product of chalcogenides of the corresponding metals. Orig. art. has: 5 equations, 2 figs., 1 table.

ASSOCIATION: None

Card 2/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

ACCESSION NR: AP4019483

SUBMITTED: 07May63 DATE ACQ: 31Mar64 ENCL: 01

SUB CODE: CH NO REF SOV: 011 OTHER: 007

Card 3/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

Pashinkin, A. S.

USSR. Study of the system NH_4Cl-$BeCl_2$-H_2O by the method of thermometric titration and by the method of solubility determination. A. V. Novoselova, A. S. Pashinkin, and K. N. Semenenko. *Vestnik Moskov. Univ.* 10, No. 2, *Ser. Fiz.-Mat. i Estestven. Nauk* No. 2, 49-53(1955).—Complex formation between $BeCl_2$ and NH_4Cl in aq. soln. was established by the method of thermometric titration; thus B.Ch. Purkayastha's data [*J. Indian Chem. Soc.* 25, 81 (1948)] were verified. The solv. of the system was studied, and the solid phases were shown to be $BeCl_2 \cdot 4H_2O$ and NH_4Cl by x-ray phase analysis. J. Roylar Leach

62

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHIN, Yu.D.

Electrometallization process for producing nuts for helical gear transmissions. Stan. i instr. 26 no.7:43-44 Jl '56. (MLRA 9:10)

(Electroplating) (Metal cladding)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

AID P - 5198

Subject : USSR/Engineering

Card 1/1 Pub. 103 - 20/24

Author : Pashin, Yu. D.

Title : Making nuts for worm gears by electrical metal coating

Periodical : Stan. i instr., 7, 43-44, Jl 1956

Abstract : A short description of making nuts for worm gears by blowing on them metal and using direct current for laying metallic coating. The author claims that such a method improves the quality of nuts in helical gears. One drawing; 1 Russian reference (1955).

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHINA, L.S.

Biology and morphology of the chalcid fly Monodontomerus nitidus Newp. (Hymenoptera, Chalcidoidea). Trudy Inst.zool.AN Kazakh.SSR 2:142-144 '53 (MLRA 10:2)

(Alma-Ata Province--Chalcid flies)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHINA, L.S.

Seed alfalfa pollinators in East Kazakhstan Province. Trudy Inst. zool. AN Kazakh.SSR 4:226-235 '55. (MIRA 10:1)
(East Kazakhstan Province--Alfalfa)
(Bees)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

SPITSYN, V.I., akad., red.; KOLLI, I.D., kand. khim. nauk, red.; ZHELIGOVSKAYA, N., kand. khim. nauk [translator]; MEL'KOVA, [illegible], [translator]; PATSUKOVA, N., kand.khim. nauk [translator]; PASHINKIN, A., kand. khim. nauk [translator]; PIKAYEV, A., kand. khim. nauk [translator]; SEMENENKO, K., kand. khim. nauk [translator]; TUROVA, N. [translator]; MANUYLOVA. G.M., red.; RYBKINA, V.P., tekhn. red.

[Inorganic polymers] Neorganicheskie polimery. Moskva, Izd-vo inostr. lit-ry, 1961. 470 p. Translations from foreign journals.

(Polymers) (MIRA 14:13)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

ACC NR: AP7000746 SOURCE CODE: UR/0079/66/036/005/0951/0951

PUDOVIK, A. N., GAZIZOV, T. Kh., PASHINKIN, A. P., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR (Institut organicheskoy i fizicheskoy khimii AN SSSR)

"Thermal Isomerization of Diethylacetylphosphite"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 5, 1966, p 951

Abstract: Heating of diethylacetylphosphite at 160-170° for five to six hours resulted in a 50% yield of methyldi(diethylphosphone)carbinol acetate. This product was found to be identical to the acetate synthesized from methyldi(diethylphosphone)carbinol and acetyl chloride. A two-step reaction mechanism is proposed: when diethylacetylphosphite is heated, it is first isomerized to the diethyl ester of acetophosphinic acid, which then reacts further with diethylacetylphosphite, leading to the formation of the acetate. [JPRS: 37,023]

TOPIC TAGS: isomerization, organic phosphorus compound

SUB CODE: 07 / SUBM DATE: 29Nov65 / ORIG REF: 005

UDC: 547.26'118

0923 1976

Card 1/1 vmb

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

USSR/Chemistry - Dioxanates FD-676

Card 1/1 : Pub. 129 - 11/25

Author : Novoselova, A. V.; and Pashinkin, A. S.

Title : Compounds of dioxane with beryllium halides

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, Vol. 9, No. 3, 75-76, May 1954

Abstract : The authors obtained dioxanates of beryllium chloride and bromide having the composition $BeX_2 \cdot C_4H_8O_2$ and studied their reaction with water and some organic solvents.

Institution : Chair of Inorganic Chemistry

Submitted : November 23, 1953

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

USSR/Chemistry - Inorganic FD 2167

Card 1/1 Pub 129-7/20

Author : Novoselova, A. V.; Pashinkin, A. S.; Semenenko, K. N.

Title : Investigating the system NH_4Cl - $BeCl_2$ by thermometric titration and solubility determination

Periodical : Vest. Mos. un., Ser. fizikomat. i yest. nauk, 10, No 2, 49-56, Mar 1955

Abstract : Confirmed the formation of complexes between beryllium and ammonium chlorides by thermometric titration (plotting temperature vs composition and using maxima as indications of complex formation.). Also obtained solubility data on the system NH_4Cl - $BeCl_2$ - H_2O. Tables, diagrams, Fourteen references (six USSR; eight since 1940).

Institution : Chair of Inorganic Chemistry

Submitted : September 2, 1954

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

LAPITSKIY, A.V.; PASHINKIN, A.S.

Dehydration of potassium niobate. Vest.Mosk.un.10 no.10:91-95 O '55. (MLRA 9:4)

1.Kafedra neorganicheskoy khimii.
(Potassium niobate)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

NOVOSELOVA, A.V.; PASHINKIN, A.S.; SEMENENKO, K.N.; YAREMBASH, Ye.I.

Instrument designed for laboratory work with hygroscopic and hydrolyzing substances. Zav.lab.21 no.7:857-858 '55. (MLRA 8:10)

1. Moskovskiy gosudarstvennyy universitet
(Chemical apparatus)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHINKIN, A. S.

27 27 27

Behavior of selenium, halogen, and iron impurities in the vacuum distillation of tellurium. A. S. Pashinkin, A. A. Men'kov, and A. K. Novoselova (Ch. V. Lomonosov State Univ., Moscow). Zhur. Neorg. Khim. 7, 320-30(1962).—Purification of Te by distn. at 400° was studied to det. the distribution of Se, Fe, and Br by using radioactive isotopes. Samples of Te contg. 0.3 and 0.025% Se showed no sepn. by distn. A mixt. of Te with 0.012% Br showed a decrease in the Br content by a factor of 300–400. A mixt. of Te with 1% Fe showed that the latter does not distil at all under the exptl. conditions. J. Roster Reader

9

4E2C

4E3

MT RML

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHINKIN, A.S.

Distr: 4E4j/4E2c

Determination of the vapor pressure of solid tellurium. 27
I. V. Korneeva, A. S. Pashinkin, A. V. Novoselova, and Yu. A. Priselkov (M. V. Lomonosov State Univ., Moscow). *Zhur. Neorg. Khim.* 2, 1720-4(1957).—The vapor pressure of Te was detd. by evapn. from a solid surface and from the surface of a powd. sample by using a modification of an app. described earlier (Priselkov, *C.A.* 49, 8851a; Schäfer and Hörnle, *C.A.* 45, 4163h). The exptl. data can be described by the equation $\log P_{mm.\ Hg} = -(7509.753/T) + 9.753$. The heat of sublimation was calcd. as 34.70 kcal./mole.

J. Roxine Leach

1/1

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHINKIN, A. S., Men'KOV, A. A., KORNEYEVA, I. V. and NOVOSELOVA, A. V.
(Moscow State Univ im M. V. Lomonosov)

"Investigation of the Sublimation of Tellurium by Using Radioactive Indicators

[illegible]

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

5(1, 2)

AUTHORS: Novoselova A. V., Pashinkin A. S. SOV/[illegible]
Men'kov A. A., [illegible] A. E.

TITLE: Manufacture of Pure Tellurium by Sublimation [illegible] chistogo tellura vozgonkoy

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniya. Khimiya i khimicheskaya tekhnologiya [illegible] Nr [illegible] pp [illegible] USSR

ABSTRACT: By way of introduction the field of application (synthesis of tellurides with semiconductor properties) is mentioned and the main admixtures in tellurium (Ref [illegible]) are enumerated. The purification methods are recalled (Refs [illegible]). Due to the fact that tellurium, both in the liquid and in the solid state possesses a considerable vapor pressure (Refs [illegible]) sublimation constitutes a most efficient purification method. The authors studied the process mentioned [illegible] the [illegible] and the tellurium distribution in the condensation zone. The initial tellurium was highly oxidized and contained a great amount of tellurium dioxide. It was chemically purified and investigated with regard to selenium admixtures. For the determination of the temperatures of the condensation zone a device [illegible] was used.

Card 1/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

Manufacture of Pure Tellurium by Sublimation SOV/[illegible]

Data on the distribution of tellurium [illegible] condensation [illegible] at 400 and 500 were obtained (Table [illegible]). [illegible] sublimated [illegible] mechanical [illegible] tellurium was first [illegible] and [illegible] atmosphere were used [illegible] exceeded [illegible] of [illegible] analysis of the sublimated [illegible] purified B. A. [illegible] sublimation [illegible]

Card 2/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

Manufacture of Pure Tellurium by Sublimation SOV/153-58-4-2/22

$1 \cdot 10^{-4}$% each. However, halogen and selenium admixtures cannot be determined by means of spectral analysis. In an earlier study (Ref 13) it had been found that no separation of selenium from tellurium occurs on sublimation. As already mentioned, the selenium content in tellurium could however, be lowered to $2 \cdot 10^{-4}$% by means of chemical purification. Due to the different volatilities of their dioxides selenium and tellurium can be separated (Refs 14-18). The purification of other admixtures (Ref 19) is discussed. There are 3 figures, 2 tables, and 19 references, 9 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova, Kafedra neorganicheskoy khimii (Moscow State University imeni M. V. Lomonosov, Chair of Inorganic Chemistry)

SUBMITTED: November 18, 1957

Card 3/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

AUTHORS: Zlomanov, V.P., Novoselova, A.V., Pashinkin, A.S., Simanov, Yu.P., Semenenko, K.N.

SOV/78-3-7-1/44

TITLE: Determination of the Pressure of Steam Saturated With Solid Tellurium Dioxide (Opredeleniye davleniya nasyshchennogo para tverdoy dvuokisi tellura)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 7, pp 1473-1477 (USSR)

ABSTRACT: The pressure of steam saturated with solid tellurium dioxide was determined in the temperature interval of 457-704° C by means of a radioactive tellurium isotope. The phase composition of tellurium dioxide was determined, for which purpose thermograms for the temperature interval of 25-800° C, as well as heating- and cooling diagrams were made. X-ray analyses showed that the crystal lattice of tellurium dioxide is tetragonal and has the following parameters: a = 4.796, c = 7.588 kX. On the strength of the results obtained by thermographical and radiographical analyses it follows that the solid phase of the vaporous tellurium dioxide shows tetragonal modifications. There are 3 figures, 2 tables, and 16 references, 9 of which are Soviet.

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

Determination of the Pressure of Steam Saturated With Solid Tellurium Dioxide 78 3-7-1/44

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

SUBMITTED: July 8 1957

1. Steam--Pressure 2. Pressure--Determin[illegible] 3. [illegible]--Phase studies 4. Tellurium isotopes--[illegible]-rays--Applications

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

SOV/78-3-9-33/[illegible]

AUTHORS: Novoselova, A. V., Pasmanik, A. S., Popovkin, B. A.

TITLE: The Behavior of Selenium Impurities in Vacuum Distillation of Tellurium (K voprosu o povedenii primesi selena pri vakuumnoy destillyatsii tellura)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp [illegible] (USSR)

ABSTRACT: The distribution of selenium impurities in tellurium in vacuum distillation was examined. The quantitative determination of the distribution of selenium in tellurium was achieved by means of radioactive isotopes of selenium. The corresponding distribution curves of tellurium and the addition of selenium, depending on the condensation temperature, were drawn on the basis of the results obtained (Fig 1). Attempts at commercial purification of tellurium with 0,8% selenium by vacuum distillation did not yield a serviceable separation efficiency. The distillation was carried out at temperatures of 120 to 540°C. Vacuum distillation does not effect a separation of selenium impurities in tellurium. Tellurium and selenium are miscible at every ratio and also in solid state when they

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

The Behavior of Selenium Impurities in Vacuum Distillation of Tellurium- SOV/79-[illegible]

form complex mixed molecules, which render separation more difficult.

There are 1 figure, 1 table, and 9 references, [illegible] of which are Soviet.

SUBMITTED: January 30, 1958

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHINKIN, A. S. Cand Chem Sci -- (diss) "On the problem of obtaining pure tellurium by vacuum sublimation and distillation." Mos, 1959. 12 pp (Mos State Univ im M. V. Lomonosov). List of author's works, pp 12 (KL, 52-59,117)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

5.4210(A)

66293

SOV/78-4-12-1/35

~~5(2), 5(4)~~

AUTHORS: Pashinkin, A. S., Novoselova, A. V.

TITLE: Measurement of the Pressure of Saturated Vapor of Solid Lead Telluride

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 12, pp 2657-2660 (USSR)

ABSTRACT: Commercial tellurium always contains lead impurities, probably in the form of telluride. The authors of this article measured the lead-telluride vapor pressure to make sure whether tellurium might be purified by sublimation or vacuum distillation. Moreover, they attempted to produce photoelectrically active films from PbTe through evaporation. PbTe resulted from fusion of the two components in stoichiometric ratio. Analysis and X-ray pictures confirmed the degree of purity of the resulting compound. The PbTe was sublimated at 800°C and 10^{-4} - 10^{-5} torr. Analyses and X-ray pictures of the sublimates

Card 1/4

T = 10.827 .

Card 2/4 -- sublimation heat ΔH_T was 53.3 kcal/mol. Calculation of

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

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SOV/78-4-12-1/35

Measurement of the Pressure of Saturated Vapor of Solid Lead Telluride

ΔH_T was based upon the assumption that ΔH_T be constant within the narrow temperature range of the experiment. PbTe is thus a fairly volatile substance. Hence, it is possible that impurities be added to the condensate by sublimated PbTe in vacuum distillation of tellurium, as is confirmed by S. A. Semenkovich , N. N. Astashev (Ref 18), M. P. Smirnov , and G. A. Bibenina (Ref 19). The authors thank Yu. P. Simanov for advice given in X-ray examinations. There are 2 figures, 4 tables, and 19 references, 10 of which are Soviet.

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

Card 3/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

66293

SOV/78-4-12-1/35

Measurement of the Pressure of Saturated Vapor of Solid Lead Telluride

SUBMITTED: September 6, 1958

4

Card 4/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

L 24779-65 EPF(c)/EPA(s)-2/EWT(m)/EWP(b)/EWP(t) Pr-4/Pt-10 IJP(c)
RDW/JW/JD/JG
ACCESSION NR: AP4049612 S/0076/64/038/011/2690/2693 44 41 B

AUTHOR: Pashinkin, A. S.

TITLE: Calculation of the vapor pressure in the measurements by the Knudsen method in the case of complete dissociation of vaporized compounds

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 11, 1964, 2690-2693

TOPIC TAGS: vapor pressure, Knudsen method, complete dissociation, vaporizing compound, vapor pressure measurement

ABSTRACT: Formulas are given for the computation of the total and partial vapor pressures of completely dissociated vaporized compounds in the measurements of the vapor pressure by the Knudsen method. The formulas are derived under the assumptions made by C. L. McCabe (J. Metals, Sec. 1, 6, 969 (1954)). Computations are made for the corresponding conversion coefficients for the transition from the pressure without dissociation to the true total or partial pressure, for the compounds ZnSe, ZnT, CdSe, CdTe, HgTe, InS_3, Bi_2Se_3, Bi_2Te_3.

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

L 24779-65
ACCESSION NR: AP4049612

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"The author is grateful to A. M. Evseev for advice and discussions." Orig. art. has: 2 tables and 26 equations

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

SUBMITTED: 02Nov63 ENCL: 00

SUB CODE: ME NO REF SOV: 006 OTHER: 007

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHINKIN, A.S.; TISHCHENKO, G.N.; KORNEYEVA, I.V.; RYZHENKO, B.N.

Polymorphism of some zinc and cadmium chalcogenides. Kristallografiia 5 no.2:261-267 Mr-Ap '60. (MIRA 13:9)

1. Moskovskiy gosudarstvennyy univeristet im. M.V.Lomonosova.
(Zinc chalcogenide) (Cadmium chalcogenide)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

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5.2100 1043, 1136, 1273
18.3100 1087 1208 1454

20520
S/063/60/005/005/009/021
A051/A029

AUTHORS: Novoselova, A.V., Corresponding Member of the USSR Academy of Sciences, Pashinkin, A.S., Candidate of Chemical Sciences, Popovkin, B.A.

TITLE: On the Production of Particularly Pure Selenium and Tellurium

PERIODICAL: Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva im. D.I. Mendeleyeva, 1960, No. 5, Vol. 5, pp. 557-562

TEXT: Selenium, tellurium and also selenides and tellurides of certain metals are used in the production of semiconductors, rectifiers, valve-type photocells and sensitive electro-photographic layers etc. Pure selenium is expected to be used in the future in the synthesis of other selenides for luminophors, photo-resistors, crystal counters etc. The semiconductor properties of tellurium and tellurides are the subject of intensive studies. In the present article the authors describe and comment on the various methods developed for the production of pure selenium and tellurium from

Card 1/11

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

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S/063/60/005/005/009/021
A051/A029

On the Production of Particularly Pure Selenium and Tellurium

commercial products. It is mentioned that the technology of selenium and tellurium production from raw materials and their primary purification methods have been described in detail in Soviet literature (Ref. 1-4). The main raw material for selenium production are the by-products of non-ferrous metallurgy plants and of the sulfuric acid production. Commercial selenium contains usually up to 98.5 % of the basic substance and admixtures of tellurium, sulfur, oxygen, arsenic, phosphorus, chlorine, silicon, sodium, copper, silver, magnesium, cadmium, mercury, aluminum, tin, lead, antimony, bismuth, iron and nickel. Penin (Ref. 5) studied the effects of admixtures on the electrical properties of selenium rectifiers. It was found that the admixtures of many metals introduced in the form of selenides in relatively low concentrations (0.1-0.01 at. %) cause a weakening of the rectifying action of the rectifiers. Copper and nickel were found to cause a decrease of the rectification coefficient. Abdullayev and Shapiro (Ref. 7, 8) found that the introduction of halides (up to 0.15%) and thallium improve the

Card 2/11

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

20620
S/061/60/005/005/009/021
A051/A029

On the Production of Particularly Pure Selenium and Tellurium

rectification characteristics. Other Soviet authors, [illegible] Potseyk (Ref. 9), Kozlovskiy (Ref. 10), Lukyanov (Ref. [illegible]) and Nasledov (Ref. [illegible]) dealt with the effects of admixtures on the photosensitivity of selenium photocells. The effects of non-metallic and metallic admixtures on the conductivity of selenium were investigated in Ref. [illegible]. Foreign admixtures in selenium were found to affect the rate of crystallization of the [illegible]. Alkaline metals, halogens, tellurium and thallium increase the rate of crystallization (Ref. 16, 17). The volatility of selenium is used in its purification and in the purification of its compounds (peroxides, halides). Other factors used in this connection are the high solubility of selenious acid, ease of reduction of its compounds to elementary selenium, the ability of selenium, contrary to tellurium, to form various additions [illegible] which decompose under certain conditions forming pure selenium. Other methods are connected with the oxidation of commercial selenium, purification of the obtained peroxide and reduction to elementary selenium. The oxidation of commercial selenium to peroxide with subsequent sublimation was recommended by

Card 3/11

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A051/A029

On the Production of Particularly Pure Selenium and Tellurium

Lobanov and Tabunin (Ref. 20, 22). In Ref. 21 Alekseyev reports that by a single distillation of selenium peroxide containing 10% of admixtures at 400°C a product can be obtained containing admixtures of iron 0.0003%, nickel 0.00003%, copper 0.0002%. Purification of selenium peroxide from admixtures of heavy metals is carried out by precipitation of these from the solutions of selenious acid in the form of selenites. This method is also recommended for purification from [illegible] the peroxide [illegible] very poorly soluble in water (Ref. 24). It is suggested that selenious acid should be purified by using ion exchange resins instead of the method recommended in Ref. 25-28, which involves the co-precipitation of admixtures with aluminum hydroxide or iron hydroxide, leading to a significant drop in the admixture content of arsenic, antimony, lead, tetanium, manganese and silver, but causing a certain pollution by iron and aluminum. By distilling a solution of selenious acid at [illegible] a separation of selenium peroxide from admixtures of tellurium, iron, aluminum, magnesium, silicon, mercury and arsenic can be accomplished after oxidizing it to a pentavalent state (Ref. 21).

Card 4/11

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20620

[illegible]

On the Production of Part[illegible]

One of the simplest meth[illegible] the reduction with sulfur [illegible] ducing agents used are f[illegible] and [illegible] rivatives. The tendency of selenium [illegible] ducing pure selenium. [illegible] of cyanide, sulfide or sodium sulfide when heated [illegible] with the following reactions taking [illegible]

$Se \rightarrow KCN \rightarrow KCNSe$

$Se \rightarrow Na_2S \rightarrow Na_2SSe$

$Se \rightarrow Na_2SO_3 \rightarrow Na_2S_2O_3$

$Se \rightarrow H_2SO_4 \rightarrow SeO_2 \rightarrow H_2O$

Pure selenium is [illegible] lutions. The [illegible] one of the most widely [illegible] recommended are based [illegible] subsequent hydrolysis of the chloride [illegible] Ref. [illegible] and by thermal decomposition of hydrogen [illegible]

Card 5/[illegible]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

20620

[illegible]

On the Produ[illegible] of Par[illegible] Pure [illegible] and [illegible]

based on the different [illegible] and the admixture elements and the different [illegible] of selenium hydride and the hydrides of the other elements [illegible] Methods [illegible] sublimation and distillation are widely used as methods for purifying selenium (Ref. 14, 37, 40). The [illegible] of the different admixtures in the sublimation process was studied [illegible] (Ref. [illegible]). An investigation was conducted of the distribution of the admixtures of sulfur, thallium and mercury [illegible] during the evaporation of selenium at 200-275°C. It was found that at [illegible] the [illegible] admixture hardly volatilizes at all with selenium [illegible] addition to selenium, thallium starts volatilizing [illegible] It is pointed out here that the presence of mixed molecules of sulfur and selenium in the gaseous phase is a great obstacle [illegible] of sulfur admixtures at low temperatures (Ref. 47). [illegible] was found to have little effect in the purification of selenium from mercury admixtures (Ref. [illegible]).

Card 6/11

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20620

[illegible]

[illegible]

On the Production of Particularly Pure Selenium and Tellurium

It is suggested to heat selenium [illegible] at 700°C with subsequent sharp cooling in order to purify [illegible] oxygen (Ref. 40). Pure selenium was obtained in this way with a specific resistance in the order of 10^{-8} ohm·cm. Distillation with a fractionating column was also used for the same purpose. Zonal liquefaction for purifying selenium has proven unsuccessful due to severe overcooling of the liquid selenium and solidification of it into the vitreous state (Ref. 16). Kozyrev (Ref. 47) pointed out that purification by the zonal liquefaction method can give positive results under high pressure. In the latter case the rate of crystallization is said to increase. In referring to the methods for producing [illegible] tellurium the following facts are listed: [illegible] raw materials [illegible] ferrous metallurgy [illegible] Commercial tellurium usually contains [illegible] % of the basic substance with a great deal of admixtures of tellurium peroxide, selenium, sulfur, chlorine, sodium, copper, silver, lead, bismuth, etc. The latter are in the bound state, forming tellurides, oxides, chlorides. An admixture of selenium forms a solid solution with tellurium. [illegible] semiconductor

Card 7/11

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A051/A029

On the Production of Particularly Pure Selenium and Tellurium

industry for the production of alloys with optimum thermoelectrical properties. The works of Ref. 48-53 are dedicated to the study of the effect of various admixtures and activating additions on the thermoelectrical properties of the alloys. Lead and tin are the most undesirable admixtures in tellurium. Methods for its purification are physical and chemical in nature or a combination of both. The chemical methods are based on the recrystallization or reprecipitation of tellurium and its compounds. Reduction potentials of tetravalent tellurium and selenium are different and depend on the acidity of the medium (Ref. [illegible]). It was shown recently that this method is unsuitable for separating out small admixtures of selenium. Tellurium can be purified of heavy metals and selenium by applying the properties of the amphoteric nature of the tellurium peroxide and its low solubility (Ref. 24). Tellurium peroxide is purified of iron or heavy metals by being dissolved in sodium hydroxide. At a pH = 10 precipitation of the hydroxide or that of the tellurites of various compositions is accomplished (Ref. 56-57). [illegible] discusses in Ref. [illegible] the means by

Card 8/11

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A051/A029

On the Production of Particularly Pure Selenium and Tellurium

which tellurium peroxide can be purified of copper, magnesium, aluminium, lead, antimony, bismuth, viz., using the low solubility of tellurium peroxide in nitric acid. The purification of tellurium by recrystallization of the compounds is used more rarely than other methods at the present time (Ref. 59, 60). Tellurium can be purified of selenium and sulfur admixtures by melting with potassium cyanide (Ref. 64). The physical methods of purification are considered: the sublimation and distillation of metallic tellurium in a vacuum, distillation in a flow of hydrogen or of an inert gas, distillation of tellurium compounds, zonal liquefaction and directed crystallization (Ref. 58, 65, 66). A study of the admixture behavior in vacuum distillation has revealed that the chloride admixtures condense in the colder sections of the zone of condensation (Ref. 66, 68) and their content in the main zone of condensation can be reduced (Ref. 68) by 300-400 times. The author has established that the selenium admixture in tellurium, both in sublimation and distillation, condenses actually together with tellurium (Ref. 70). It is recommended that tellurium be chemically purified prior to

Card 9/11

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A051/A029

On the Production of Particularly Pure Selenium and Tellurium

vacuum sublimation, in order to eliminate the selenium admixture. However, the authors doubt the need for eliminating the selenium admixture in the case of semiconductor manufacture. Sublimation in a hydrogen or inert gas flow is another effective method suggested for purifying tellurium (Ref. 71-73). The sublimation and distillation of tellurium compounds, like tetrachloride and peroxide, have only a limited significance (Ref. 60, 75, 77). A high difference in the vapor pressure of the selenium peroxide and the tellurium peroxide could be used for separating tellurium from selenium admixtures (Ref. 78). Due to the complexity of the apparatus needed the recently suggested method of tellurium purification based on the thermal dissociation of tellurium hydride is unpractical. Besides, the latter method would give a low yield of the pure product, viz., 24 % and less (Ref. 79). Tellurium is subjected to zonal liquefaction when it is necessary to have a product of the highest purity. This is necessary for research purposes (Ref. 83). Zonal liquefaction is ineffective in the case of eliminating selenium and magnesium admixtures (Ref. 46, 80). The direct crystallization

Card 10/11

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

POPOVA, Ye.A.; MOTINA, Ye.I., red.-lingvist; PASHINKIN, A.S., red.-khimik; DEMYANOVA, L.G., red.; SIROTKINA, T.I., red.; MASLENNIKOVA, T.A., tekhn. red.

[Book of readings in chemistry; a manual for foreign students studying the Russian language] Kniga dlia chteniia po khimii: uchebnoe posobie dlia studentov-inostrantsev, izuchaiushchikh russkii iazyk. Moskva, Izd-vo Mosk. univ., 1961. 202 p. (MIRA 14:9)
(Russian language—Chrestomathies and readers (Chemistry))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

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B107/B101

54800 1273 1228 1297

AUTHORS: Nesterova, Ya.M., Pashinkin, A.S., Novoselova, A.V.

TITLE: Determination of the saturated-vapor pressure of solid tin selenide and tin telluride.

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 9, 1961, 2014-2018

TEXT: The lattice constants and saturated-vapor pressure of SnSe and SnTe were determined. This is of interest for finding out whether it is possible, by distillation, to remove the tin impurity from selenium and tellurium, which serve for rectifiers or alloys for thermoelectric cooling. The present study is a continuation of publications on the saturated-vapor pressures of selenides and tellurides of the second- and fourth group elements. (Last publication: I.V. Korneyeva, V.V. Sokolov, A.V. Novoselova, Zh. neorg. khimii, 5,241 (1960)). The compounds were prepared from the elements; the composition was checked analytically. Radiographs were made by the РКД-57 (RKD-57) camera and nickel radiation. SnTe crystallizes cubically in accordance with the NaCl type, with a = 6.310 ± 0.005 kX;

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this value agrees well with publication data (Ref. 8, see below) The lattice constants of the rhombical SnSe cell are : a = 4 46 ± 0.01; b = 4.17 ± 0.01; c = 11.46 ± 0.01 kX (Table 2). The values about agree with previous data (Ref. 12, see below); as shown by the intensity of the lines, the compound has the same structure as GeS (Ref. 23, see below). After distillation in vacuum (10^{-4} mm Hg, SnSe at 650-700°C and SnTe at 640-680°C), chemical composition and lattice constants are unchanged. The pressure of the saturated vapor was determined according to Knudsen's method. Two quartz-effusion chambers with openings of different sizes were used. Calibration measurements were conducted with KCl. Measurement results are listed in Table 3. The maximum error amounts to 20%. The following dependence was obtained for SnSe in the range of from 569 to 647°C: log p = - 9186.6/T + 8.696; (p in mm Hg); $\Delta H^{o}_{891°K}$ = 42.0 ± 11 kcal per mole. The following equation was obtained for SnTe in the range of from 575 to 731°C; log p = - 9817.3/T + 9.009 (p in mm Hg); $\Delta H^{o}_{926°K}$ = 44.9 ± 4.3 kcal/mole. The authors thank Yu.P. Simanov and L.M. Kovba for help with the X-ray investigation.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

KOSTIN, N.V.; PASHINKIN, A.S.

Colorimetric determination of small amounts of zinc in babbitts. Report No.2. Vest. Mosk. un. Ser. 2: Khim. 16 no.1:64-66 Ja-F '61. (MIRA 14:4)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Zinc--Analysis) (Babbitt metal)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

NOVOSELOVA, A. V.; PASINKIN, A. S.[Pashinkin, A. S.]; POPOVKIN, B. A.

Preparation of the highly pure selenium and tellurium. Analele chimie 16 no.3:98-107 Jl-S '61.

(Selenium) (Tellurium)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

SOV/
S/070/62/007/002/015/022
E132/E160

24,7100

AUTHORS: Pashinkin, A.S., and Kovba, L.M.

TITLE: On the polytypic modifications of crystals of CdS and CdSe

PERIODICAL: Kristallografiya, v.7, no.2, 1962, 316-318

TEXT: The aim of the work was to elucidate the existence of the polytypic forms of CdS and CdSe. For both CdS and CdSe 24-layer structures were found (24H type) with c = 80.8 ± 0.7 Å and 84.3 ± 0.5 Å, respectively. The usual 2-layer structures have c = 6.73 ± 0.02 and 7.03 ± 0.03 Å. Crystals were prepared by the method of R. Frerichs (Ref.7: Phys.Rev., v.72, 1947, 594-602). There is 1 table.

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

SUBMITTED: June 9, 1961

Card 1/1

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

BUKETOV, Ye.A., MEKLER, L.I., MALIKOV, Ye.G.; PASHINKIN, A.S.; TROFIMOVA, L.D.

System tellurium - tellurium dioxide. Zhur.neorg.khim. 9 no.1 (MIRA 17:3)
Ja '64.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHINKIN, A.S.; SAPOZHNIKOV, R.A.

Cubic modification of cadmium selenide. Kristallografiia 7 no.4: 623 Jl-Ag '62. (MIRA 15:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Cadmium selenide crystals)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

LYU TSYUN'-KHUA [Liu Ch'ün-hua]; PASHINKIN, A.S.; NOVOSELOVA, A.V.

Determination of the saturated vapor pressure of solid germanium selenide and telluride. Zhur.neorg.khim. 7 no.5:963-966 My '62. (MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova. (Germanium selenide) (Germanium telluride) (Vapor pressure)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

LYU TSYUN'-KHUA [Liu Ch'ün-hua]; ~~PASHINKIN, A.S.~~; NOVOSELOVA, A.V.

Germanium diselenide. Zhur.neorg.khim. 7 no.9:2159-2161 S '62. (MIRA 1[illegible])

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Germanium selenide)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

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B101/B186

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AUTHOR: Pashinkin, A. S.

TITLE: The molecular composition and vapor pressure of chalcogenides of subgroup IIb

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 11, 1962, 2632-2633

TEXT: The vapor pressures obtained for ZnSe, ZnTe, CdTe and HgTe assuming no dissociation were converted to those for the complete dissociation $MeX_{gas} \rightleftharpoons Me_{gas} + 0.5X_{2gas}$ by using the equation suggested by C. L. McCabe (J. Metals, Sec., 6, 969 (1954)). This equation reads $P_{total} = KP_{MeX}$, where $K = (3/2)(M_1)^{1/3}(M_2)^{1/6}/(M_1 + M_2)^{1/2}$; M_1 = molecular weight of the metal, and M_2 = molecular weight of the chalcogen. From published data it is assumed that only Se_2 and Te_2 molecules exist in the temperature range examined. The constants of the equation $-A/T + B$ and $\log K$, the correction to B, were calculated ($B_1 = B + \log K$). Data:

Card 1/2

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Substance	range of measurement, °C	-A	B	K	logK	B_1
ZnSe	643 - 822	14202	11.465	1.178	0.071	11.534
ZnTe	518 - 715	10627	9.539	1.096	0.040	9.579
CdSe[1])	539 - 741	10951	9.729	1.217	0.085	9.814
CdTe	545 - 649	9500.3	9.218	1.177	0.071	9.289
HgTe	213 - 523	9251.3	7.03	1.221	0.087	7.12

[1]) The values for CdSe are taken from W. J. Westen (J. Phys. Chem., 65, 1949 (1961)). There is 1 table.

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

SUBMITTED: March 23, 1962

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

PASHINKIN, A.S.; DROBOT, D.V.; SHEVTSOVA, Z.N.; KORSHUNOV, B.G.

Determination of vapor pressure of anhydrous solid chlorides of yttrium and samarium. Zhur.neorg.khim. 7 no.12:2811-2813 D '62. (MIRA 16:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova i Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Yttrium chloride) (Samarium chloride) (Vapor pressure

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

LYU TSYUN'-KHUA [Liu Ch'un-hua], PASHINKIN, A.S.; NOVOSELOVA, A.V.

Germanium - selenium system. Dokl. AN SSSR 146 no.5:1092-1093 O '62. (MIRA 15:10)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
2. Chlen-korrespondent AN SSSR (for Novoselova).
(Germanium selenide)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

S/078/63/008/004/013/013
A059/A126

AUTHORS: Dembovskiy, S.A., Yegorov, B.N., Pashinkin, A.S., Polyakov, Yu.A.

TITLE: The problem of the phase transition of the second type with SnSe

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 4, 1963, 1,025 - 1,026

TEXT: In connection with the systematic study of the phase diagrams of the Sn - Se and SnSe - As_2Se_3 systems, tin selenide was investigated using differential thermal analysis and x-ray photography in the region of second-type transition. Sn and Sb were melted in a stoichiometric ratio in evacuated quartz flasks, and thermograms were taken with a pyrometer of the type ФПК-55 (FPK-55). A differential temperature peak was observed on the thermograms of SnSe with an extreme value at 540°C corresponding to the λ-point. No marked structural modifications of SnSe were established in the second-type transition region. The applicability of the Grüneisen law to second-type phase transitions has been shown on the example of SnSe. It has been further shown that the correlation of electric parameters (Hall resistance R) and thermal properties (thermal volume

Card 1/2

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expansion coefficient, specific heat) is possible, and it is assumed that second-type phase transitions are also possible in the isostructural analogues of tin selenide, namely GeS, GeSe, and SnS. There are 2 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N.S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: August 16, 1962

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

NOVOSELOVA, A.V.; PASHINKIN, A.S., kand. khim. nauk

Chemistry of semiconductors. Priroda 52 no.12:39-44 '63.
(MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
2. Chlen-korrespondent AN SSSR (for Novoselova).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

[illegible], Ye.A.; [illegible], A.S.; [illegible], M.[illegible]; M[illegible]AGALIYEVA, R.A.; SAPOZHNIKOV, R.A.

Thermal stability of silver selenite. Zhur. neorg. khim. [illegible]: [illegible]01-[illegible]04 [illegible]. (MIRA 18:[illegible]

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ACCESSION NR: AP5018247 RDW/WH/JD

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54-161.6+546.289'231

AUTHOR: Dembovskiy, S. A.; Vinogradova, G. Z.; Pashinkin, A. S.

30
B

TITLE: Crystallization of glasses in the Se—Ge system

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 7, 1965, 1657-1659

TOPIC TAGS: selenium germanium system, glass crystallization, phase diagram, glass formation, germanium diselenide

ABSTRACT: The part of the Se—Ge system in the 75 to 100 at% Se composition range has been studied by DTA and x-ray structural analysis to refine the region of glass formation in the phase diagram previously studied (Liu Ch'un-Hua, A. S. Pashinkin, and A. V. Novoselova. Dokl. AN SSSR, 146, 1092, 1962) and to correlate the crystallizability of glasses in this region with the corresponding phase diagram. Glass samples were synthesized by a known method (L. G. Ayo, V. F. Kokorina. Optiko-mekh. promyshlennost', no. 4, 39, 1961) and heat treated at 160 to 180C for 400 hr. Partial crystallization occurred in all heat-treated glasses. The degree of crystallization depended on the composition of the glasses. The minimum crystallization, i.e., the maximum content of the glass, was observed visually

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in the composition containing 8 at% Ge. This observation was confirmed by x-ray patterns and by comparing the Tamman triangles for Tg and solidus effects, which were determined on DTA curves of the glass compositions in the range studied. Crystallizability of glasses decreased on the approach from both sides of the composition range to the point corresponding to 8 at% Ge. This composition was attributed to a eutectic analogous to those in the Se—As_2Se_3 and some other systems. The partial phase diagram of the Se—Ge system shows the eutectic point at about 210C and the formation of a germanium selenide, $GeSe_2$, which was detected on the x-ray patterns in compositions over 15 at% Ge. The glass of eutectic composition could be completely crystallized, unlike the analogous composition in the Se—As_2Se_3 system. Orig. art. has: 4 figures. [JK]

ASSOCIATION: none

SUBMITTED: 02Mar64 ENCL: 00 SUB CODE: MT

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PASHINKIN, A.S.

Calculation of va[illegible]
in the case of the [illegible]
Zhur.fiz.kh.m. 38 no.[illegible]

[illegible] Moskovskiy [illegible]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

[illegible] Yu. [illegible]

Vapor pressure of [illegible]
Zhur. prikl. khim. [illegible]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239320017-3

BUKETOV, Ye.A.; [illegible]; BAKEYEV, M.I.; PASHINKIN, A.S.

Pressure of copper selenite dissociation. Izv. AN Kazakh.SSR. Ser.khim.nauk 15 no.3:40-45 [illegible]-Ag '65.

(MIRA 18:1)

1. Submitted January 8, 1965.

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PASHINKIN, A.S., kand. khim. nauk (Moskva)

Remarkable semiconductors. Priroda 53 no.2:124 '64.
(MIRA 17:2)

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