14(11)
AUTHORS: Zilova, T. K., Palkin, P. A., Petrukhina, N. I., Ryazanov, E. V., Fridman, Ya. B

SOV/32-25-1-31/51

TITLE: Extension Test at Various Elastic Energy Reserves (Ispytaniye na rastyazheniye pri razlichnykh zapasakh uprugoy energii)

PERICDICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 1, pp 76-82 (USSR)

ABSTRACT: The test plant DRP-361 was designed for studying the influence exercised by the initial elastic energy reserve upon load conditions and material properties. It is provided with a dynamometric spring with variable elasticity. The maximum load and maximum reserve of elastic energy which is stored up in the spring dynamometer, depend on the properties of the chosen spring, their number and arrangement. By means of that plant, short and long-term tests of extension can be carried out according to the scheme of an isolated and unisolated system. The mechanical and hydraulic part of the plant is calculated for a maximum axial load of 15 tons, a maximum oil pressure of 100 kg/cm^2, and a maximum riston motion of 15 mm. The plant covers the test plant (Fig 1), a system of hydraulic supply lines (Fig 2) and a set of measuring

Card 1/2

instruments. The set is provided with a loop oscillograph [illegible] the dynamometric spring represents a series of foil springs (according to GOST 7057-54), and AMG-10 was used as working liquid. The cells were calibrated (for the purpose of measuring the axial load of the specimen) by means of the IMA test plant. The oscillograms obtained were measured by means of a BMI microscope. The sample stress was measured by means of tension indicators. The latter consist of the ICh indicator, a small elastic U beam of beryllium bronze and "resistance cells" of the DK-10 or DK-25 type. It was stated that the influence of elasticity is determined by the kinetics of the change in the load force. Some further observations were made with the D16T alloy and some 30 KhGSNA steel specimens. There are 9 figures, 2 tables, and 9 references, 6 of which are Soviet.

ZILOVA, T.K.; PETRUKHINA, N.I.; PALKIN, B.A.; RYAZANOV, N.V.; FRIDMAN, Ya.B.; prinimali uchastiye: BULANOV, Yu.A., KOS'KINA, V.N.

Tension and torsion testing of studs at different flexibility of load-applying devices. Zav.lab. 27 no.7:877-883 '61. (MIRA 14:7)

(Materials--Testing)

L 11401-63 BDS

S/032/63/029/005/015/022

45

AUTHORS: Zilikova, T. K., Novosil'tseva, N. I., Palkin, B. A., Ryazanov, N. V. and Fridman, Ya. B.

TITLE: Method of testing sheet materials for biaxial extension at a different reserve of elastic energy

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 5, 1963, 600-604

TEXT: Analysis of a number of operational failures such as the explosion of the British "Comet" jet aircraft has shown that with a rise in the reserve of elastic energy in the presence of defects not only acceleration of deformation and failure occur, but also a reduction in the strength of a material can be expected. A device has been constructed to test biaxial extension of sheet material at a different reserve of elastic energy by means of pneumatic (gaseous nitrogen) or hydraulic (liquid AMG-10), arranged so that the working part of the test piece was in a zone of practically symmetrical biaxial extension. In tests of the influence of the working medium transmitting pressure to the test piece on the strength and nature of failure of the sample, test pieces were broken down into rather large pieces in the hydraulic test and into fine pieces in the pneumatic. In tests of the influence of the volume of the working medium it was found that increase in the volume of the container did not lead to substantial change in the kinetics, although the rate of deformation increased. There are 6 figures and 2 tables.

Card 1/1 Je/eb

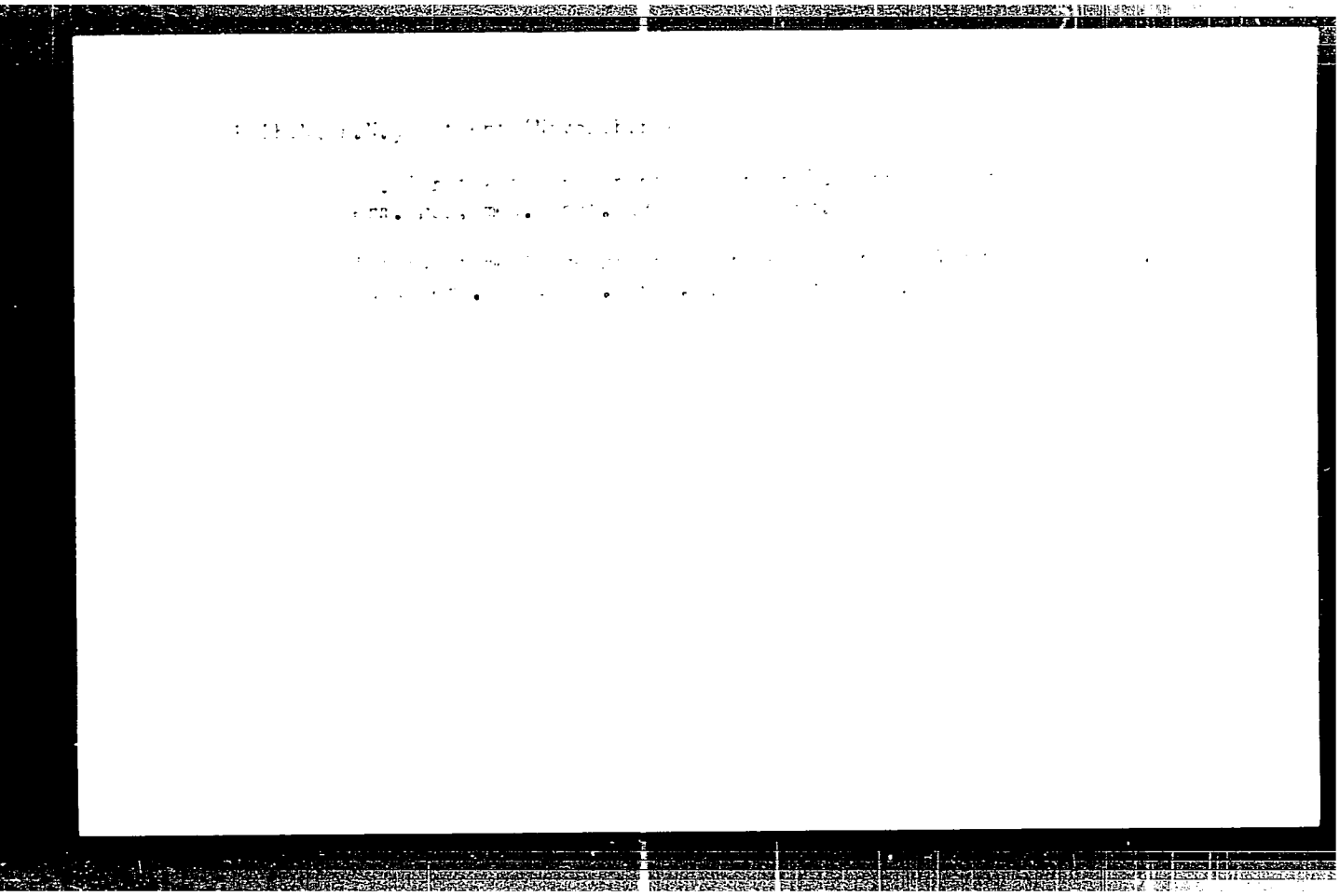
PALKIN, B. N.

"Martin Sheyn - Russian Scientific Physician,"

Khirurgiya, No. 6, 1948. Sci. Students Seminar,

Chair Medical History, 2nd Moscow Municipal

Med. Inst. im. I.V. Stalin, -c1948-.



APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001238910005-2"

PALKIN, B.N., [illegible] (Novosibirsk)

Medical service of the Orenburg Frontier Commission. Sov. zdrav. 22 no.3[illegible]-76 '63 (MIRA 17:1)

.. Iz kafedry organizatsii zdravookhraneniya i istorii meditsiny (zav. - [illegible] B.N.Palkin) Novosibirskogo meditsinskogo [illegible] (rektor - zasluzhennyy deyatel' nauki prof. G.D. Zalesskiy).

PALKIN, B.N.

History of infectious disease control in Western Siberia in the 18th and the first half of the 19th century. Zhur.mikrobiol., epid. i immun. 42 no.4:151-155 Ap '65. (MIRA 18:5)

1. Novosibirskiy meditsinskiy institut.

PALKIN, Boris Nikolayevich

[Russian hospital schools of the eighteenth century and their students] Russkie gospital'nye shkoly XVIII veka i ikh vospitanniki. Moskva, Medgiz, 1959. 270 p. (MIRA 13:11)
(MEDICINE--STUDY AND TEACHING)

PALKIN, F.P., inzh. (Novosibirsk)

Crushed stone foundation for track on iron and steel bridges.
Zhel.dor.transp. 40 no.4:55-59 Ap '58. (MIRA 13:4)
(Railroad bridges)

PALKIN, F. P., CAND TECH SCI, "~~INVESTIGATION~~ OF METAL[redacted] SPAN STRUCTURES OF RAILROAD BRIDGES WITH TRAVEL BELOW ON BALLAST." NOVOSIBIRSK, 1961. (MINISTRY OF RAILWAYS USSR, LENINGRAD ORDER OF LENIN INST OF ENGINEERS OF RAILROAD TRANSPORT IM ACAD V. N. OBRAZTSOV). (KL, 3-61, 218).

PALKIN, F.P., kand.tekhn.nauk

Joint functioning of the roadway and the booms of the main trusses.
Trudy NIIZHT no.24:335-339 '61. (MIRA 16:5)
(Bridges)

YAKOBSON, K.K., doktor tekh.[illegible] (Novosibirsk); PALKIN, I.P., kand.ekonn. nauk (Novosibirsk)

Use reinforced concrete superstructure on bridges. Put' i put.khoz. 7 no.8:14 '63. (MIRA 16:9)

(Railroad bridges)

YAKOBSON, K.K., dokter tekhn. nauk (Novosibirsk); PALKIN, F.P., kand. tekhn. nauk (Novosibirsk)

Technical and economic characteristics of bridge spans. Khel. dor. transp. 47 no. 11:66-70 N '65 (MIRA 19:1)

GUDKOV, A.; BUSURIN, Ya.; IOFE, N.; PALKIN, G., kand. sel'khoz. nauk; TUNITSKIY, A., red.; KOROTAYEVA, D., tekhn. red.

[Manual on private livestock and poultry raising] Spravochnik po individual'nomu zhivotnovodstvu i ptitsevodstvu. Moskva, Izd-vo VTsSPS Profizdat, 1946. 182 p. (MIRA 14:8)
(Stock and stockbreeding) (Poultry)

PAI!IN, .

7800. PALKIN, G.***Opyt povysheniya produktivnosti ... tuzh... so sk... t ... sovzkhoze "T...urnyaseyskiy" (Tel'manskiy rayon). Kazan', 954. ... s ... sm. ...atar. Resp. s.-kh. vystavka 954 g.) .500 ekz. ...:l.—(55-3759) ... 636.208 st (47.85)

SO: Knizhnaya Letopis', Vol. ..., ...

USSR/General Division - History. Classics. Personalities. A-2

Abs Jour : Ref Zhur - Biologiya, No 7, 10 April 1957, 25681

Author : Palkin, G.
Inst :
Title : The Founder of the Michurin Movement in Stock-Raising
20 Years Since the Death of Academician M.F. Ivanov.

Orig Pub : Tatarstan avyl khuzhaiyegy, 1955, No 11, 40-41

Abst : No abstract.

Card 1/1

PALKIN, G.A.; MOMASUROVA, Kh.V.; BUBAYA, L.K.

Materials on the constitutional characteristics of Bestuzhev cattle under conditions prevailing in the Tatar A.S.S.R. Izv.Kazan.fil.AN SSSR.Ser.biol.i sel'khoz.nauki no.2:117-141 '50. (MLRA 10:2)
(Tatar A.S.S.R.--Cattle breeds)

PALKIN, G.A.; KURAMSHIN, T.V.; BATMANOV, B.I.; ZABOTIN, I., redaktor; [redacted], Kh., spets. redaktor; SHARAFUTDINOVA, M., tekhnicheskiy redaktor

[House of farm crops on the collective farm] Dom sel'skokhoziaistvennoi kul'tury v kolkhoze. Kazan', Tatgosizdat, 1952. 190 p.(MIRA 9:8)
(Agriculture--Study and teaching)

BURAYA, L.K.; PALKIN, G.A.

Resistance of the organism of farm animals as affected by various factors. Izv.Kazan.fil.AN SSSR.Ser.biol.i sel'khoz.nauk no.3:171-176 '52. (MLRA 10:2)

(Opsonins and opsonic index) (Cattle)

PALKIN, G.A.

Outline of the history of development of animal science in the Tatar A.S.S.R. during the past thirty years. Izv.Kazan.fil.AN SSSR.Ser.biol.i sel'khoz.nauk no.3:153-169 '52. (MLRA 10:2)
(Tatar A.S.S.R.--Stock and stockbreeding--Research)

PALKIN, G.A.; GORDEYEV, N.I.

Analysis of methods used in breeding the leading herd of Bestuzhev cattle and some prospects for their further upgrading. Izv.Kazan. fil.AN SSSR.Ser.biol.i sel'khoz.nauk no.3:127-151 '52. (MLRA 10:2)
(Tatar A.S.S.R.--Cattle breeding)

Country : USSR
Category : Farm Animals. 2

Abs. Jour : [illegible], No 2, 1957, 9660?

Author : Sabi[illegible], I. L.; Palkin, S. S.
Institut. : [illegible] Veterinary Institute.
Title : [illegible] of the History [illegible] Development of Animal Husbandry and Veterinary Science in Tatar ASSR. During Forty Years of Soviet Rule.
Orig Pub. : Uch. zap. Kazansk. vet. In-ta, 1957, [illegible], No 2, [illegible] str., 11.

Abstract : The concrete achievements of the Republic in farming and in particular in animal husbandry, are discussed. During 1912, the live weight of cows fluctuated between 256-320 kg; their productivity amounted to 720-1440 kg. During 1956, each cow yielded 1358 kg of milk at Tatarian kolkhozes. On pioneer farms the yields are several times higher. At the Shushery sovkhoz the average milk yield per each fodder cow amounted to 4332 kg in 1953 and in 1956 to 4472 kg. The cow population increased consid-

Card: 1/4

Country : USSR
Category : Farm Animals. Q

Abs. Jour : [illegible]

Author :
Institut. :
Title :

Orig Pub. :

Abstract : Leading trend in sheep husbandry is directed toward the fine-fleeced meat wool animal. The large white breed of swine is raised in the Republic. In 1949, the industrial crossbreeding of this breed with the boars of the Brait and of the white long-eared breeds was originated. During the past years, a number of distribution centers of pure-bred animals for cattle breeding (Bestuzhevskaya and Kholmogorskaya breeds) and sheep breeding (Prekosy breeds) were organized. A State Republic Station dea-

Card: 3/4

BATMANOV, B.I., agronom; KURAMSHIN, T.V., starshiy nauchnyy sotr.; PALKIN, G.A., kand. sel'khoz. nauk; BLAGORAZUMOV, P.N., red.; SAGITOVA, S.G., tekhn. red.

[Experimental work on collective and state farms] Opytnaia rabota v kolkhozakh i sovkhozakh. Kazan', Tatarskoe knizhnoe izd-vo, 1960. 246 p. (MIRA 14:9)

1. Tatarskaya respublikanskaya sel'skokhozyaystvennaya opytnaya stantsiya (for Kuramshin).
(Agriculture--Experimentation)

Palkin, I.I.

PALKIN, I.I.

A.K.Limberg; on the 100th anniversary of his birth and the 50th anniversary of his death. Stomatologiia 36 no.1:75-76 Ja-F '57. (MIRA 11:1)

1. Iz 1-y gorodskoy stomatologicheskoy poliklinik (glavnyy vrach L.M.Perzashkevich) Leningradskogo gorodskogo zdravotdela.

(LIMBERG, ALEKSANDR KARLOVICH, 1856-1907)

PALKIN, I.I.

Effect of somatic diseases on the incidence of caries in the permanent teeth. Stomatologiia 37 no.5:13-14 S-O '58 (MIRA 11:11)

1. Iz 1-y gorodskoy stomatologicheskoy poliklinik (glavnyy vrach L.M. Perzashkevich) Leningradskogo gorodskogo otdela zdravo-okhraneniya.
(TEETH--DISEASES)

PALKIN, I.I., assistent

Dental caries in children with rheumatic fever; in relation to the article by E.S. Dunaeva and L.I. Kachan. Stomatologiia 38 no.5: 17-18 S-O '59. (MIRA 13:3)

1. Iz kafedry terapevticheskoy stomatologii (zaveduyushchiy - dotsent T.T. Shkolyar) stomatologicheskogo fakul'teta Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(TEETH--DISEASES) (RHEUMATIC FEVER)
(DUNAEVA, E.S.) (KACHAN, L.I.)

PALKIN, M.Ye., kandidat meditsinskikh nauk

Pharmacy and pharmaceutists during the Commune of Paris. Apt.delo 6 no.2:84-87 Mr-Ap '57. (MLRA 10:6)
(FRANCE--PHARMACY--HISTORY)

[illegible], [illegible].E.

[illegible]

[illegible]: Bulgaria (Translated from the [illegible])

[illegible]: Candidate of [illegible] Sciences, [illegible]

[illegible]: not indicated

[illegible]: Sofia, Sre[illegible] [illegible], No 2, 19[illegible], [illegible]

[illegible]: "[illegible]urses in the Days of the [illegible]aris Commune."
([illegible]rticle written especially for [illegible])

USSR/Chemical Technology - Chemical Products and Their Applications - Silicates. Glass. Ceramics. Binders. I-10

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 9013

Author : Palkin, N.
Inst :
Title : Keramzit from Brick Production Waste Materials.

Orig Pub : Stroit. materily, izdeliya i konstruktsii, 1956, No 4, 22-23

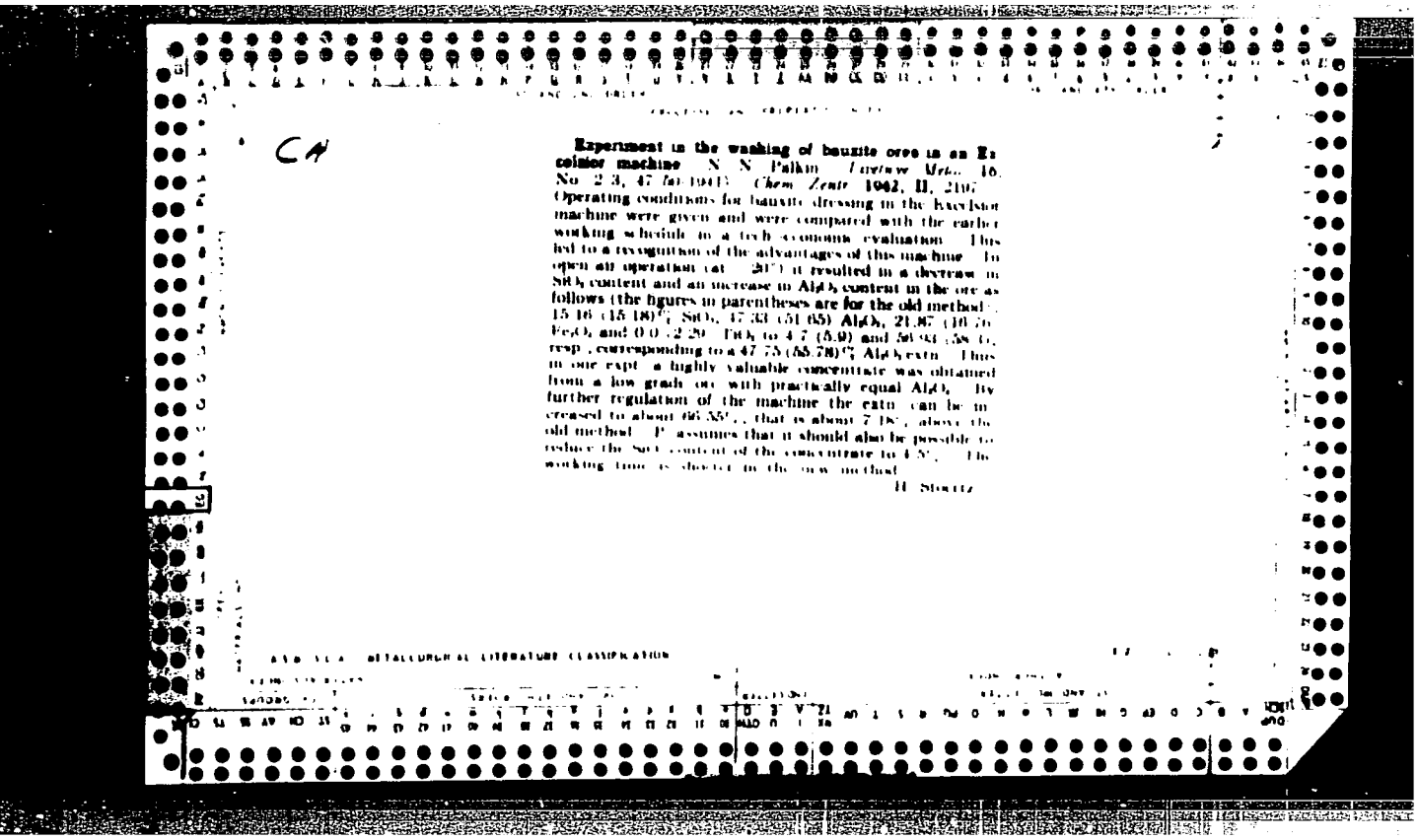
Abstract : Keramzit has been prepared from waste products of brick manufacture. The product was in the form of lumps of bulk density 200-1000 kg/m³, R_{szh} [TN: crushing strength?] 20-60 kg/cm (specimens 7x7x7 cm). The specimens were fired at 1220-1240° and held at that temperature for 25 min. The height of the checkers was 700-750 mm.

Card 1/1

PALKIN, N., inzhener-tekhnolog

Production of lump keramzit. Sel'. stroi. 16 no.12:10-11 D '61.
(MIRA 15:2)

(Komi A.S.S.R.--Aggregates(Building materials)



C4

Experiment in the washing of bauxite ores in an Ea colmier machine N N Palkin *Tsvetnye Met.* 16, No 2-3, 47 (in 1941) *Chem Zentr* **1942**, II, 2107 Operating conditions for bauxite dressing in the Eaxelson machine were given and were compared with the earlier working schedule in a tech-economic evaluation This led to a recognition of the advantages of this machine In open air operation (at 20°) it resulted in a decrease in SiO_2 content and an increase in Al_2O_3 content in the ore as follows (the figures in parentheses are for the old method) 15 16 (15 18)% SiO_2, 47 33 (51 65) Al_2O_3, 21 87 (10 70 Fe_2O_3 and 0 0 (2 20 TiO, to 4 7 (5 9) and 50 61 (58 6), resp , corresponding to a 47 75 (55 78)% Al_2O_3 extn Thus in one expt a highly valuable concentrate was obtained from a low grade ore with practically equal Al_2O_3 By further regulation of the machine the extn can be increased to about 66 55%, that is about 7 18% above the old method P assumes that it should also be possible to reduce the SiO, content of the concentrate to 4 5% The working time is shorter in the new method

H Stortz

PALKIN N Ye

AID P - 3961

Subject : USSR/Mining

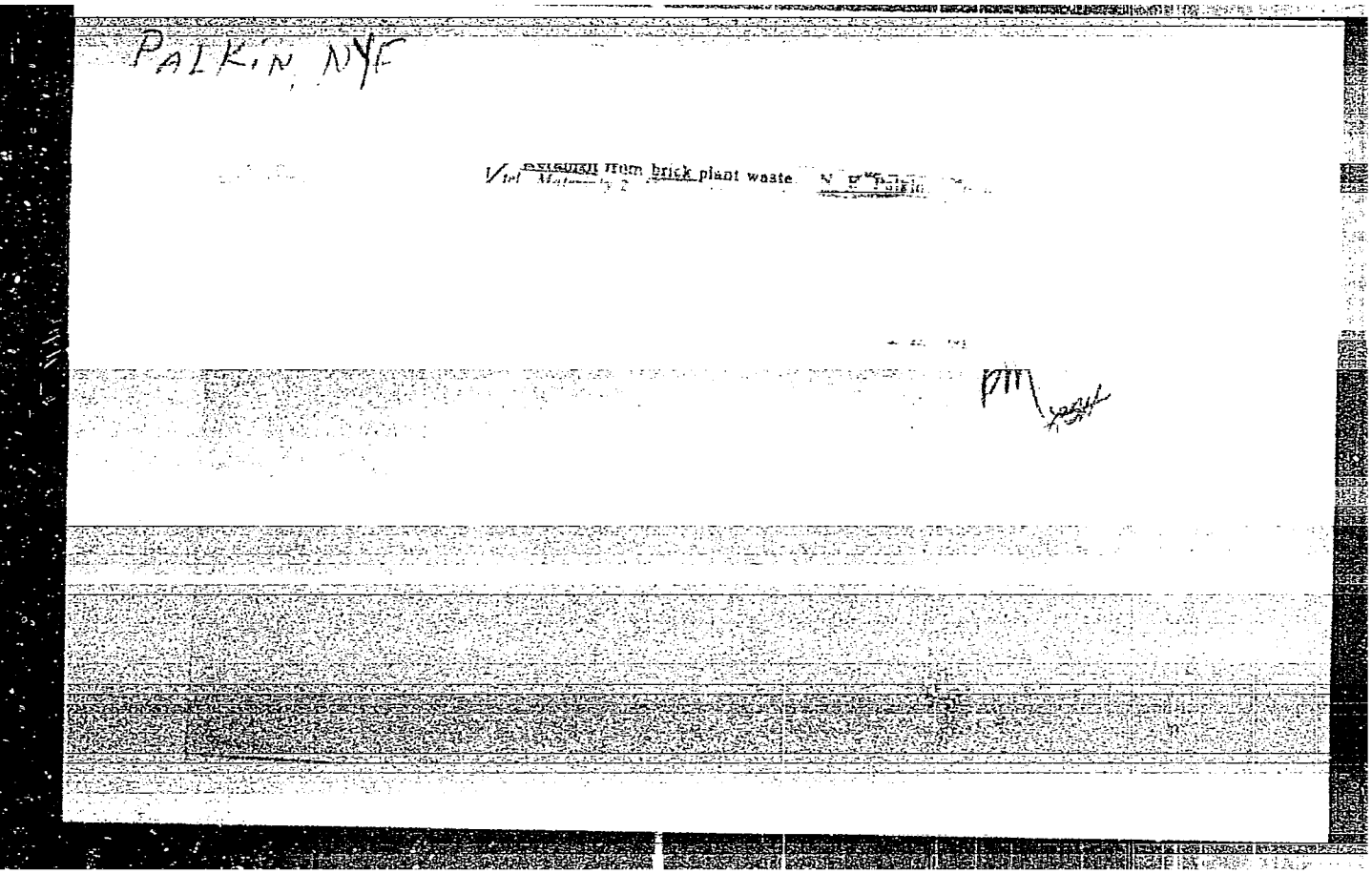
Card 1/2 Pub. 78 - 6/27

Author : Palkin, N. Ye.

Title : Obtaining mud fluids by the method of electro-osmotic enrichment of clay deposits.

Periodical : Neft. khoz., v. 33, #12, 17-19, D 1955

Abstract : Clay deposits which are used for the preparation of mud fluids usually contain an admixture of sandy particles which decrease the suspension qualities of the fluid and increase the wear on the drilling equipment. Those sandy particles must be eliminated first. In the remaining clay, the colloidal particles are enriched by adding to the mud some electrolyte, NaOH or KOH, and then diffusing it through a specially constructed container within an electric field. Thus a high-plastic colloidal paste which when dried becomes a fine grain colloidal powder, is obtained.



PALKIN, O.V.

Planting in semiarid regions. [illegible]

1. Nachal'nik Groznenskoy [illegible] lesozashchitnoy [illegible] Severo-Kavkazskoy dorogi.

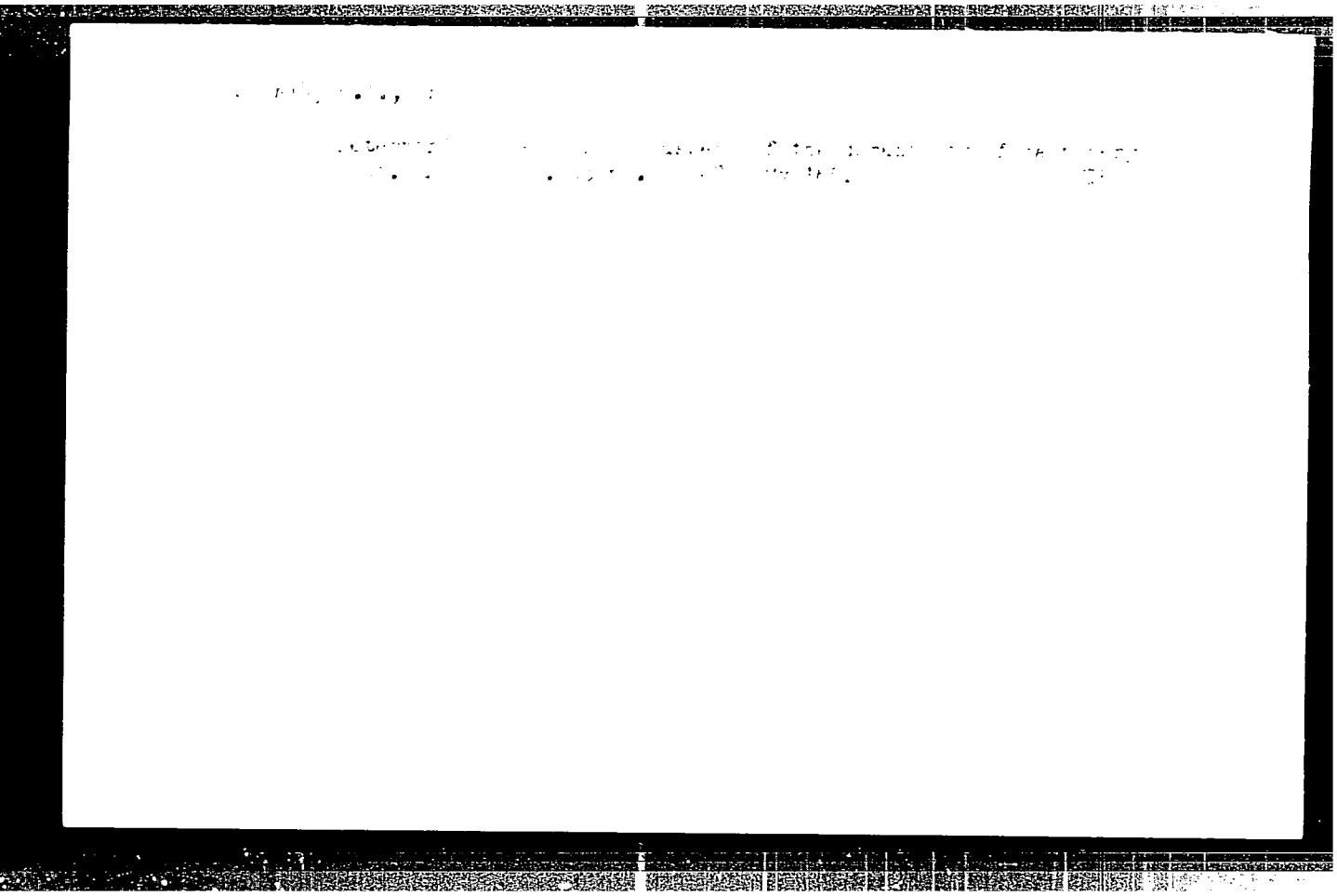
ALEKSEYEV, N.A.; BUZ'KO, M.P.; IPPOLITOV, K.M.; PALKIN, R.I.; SIMONOVICH, Ye.Ya.; TARASOVA, V.S.; TITKOVA, M.G.; ALEKSEYEV, N.A., otv. za vypusk; GALAKTIONOVA, Ye.N., tekhn.red.; DONSKAYA, G.D., tekhn.red.

[Provisional norms for the use of materials and spare parts in repairing road machinery and tractors] Vremennye normy raskhoda materialov i zapasnykh chastei dlia remonta dorozhno-stroitel'nykh mashin i traktorov. Moskva, Avtotransizdat, 1960. 380 p. (MIRA 13:10)

1. Russia (1917- R.S.F.S.R.) Ministerstvo avtomobil'nogo transporta i shosseynykh dorog. TSentral'naya normativno-issledovatel'skaya stantsiya.
(Road machinery--Maintenance and repair)
(Tractors--Maintenance and repair)

PALKIN, R.I., inzh.

Economic life duration of construction machinery. Stroi. i d. . mash. 9 no.7:21-22 Jl '64. (MIRA 17:8)



PALKIN, Rafail Isayevich, inzhener; SLEZNIKOV, G.I., inzhener, nauchnyy redaktor; TYAPKIN, B.G., redaktor izdatel'stva; TOKER, A.M., tekhnicheskiy redaktor

[Machinist's work in the repair of building machinery] Slesarnye raboty pri remonte stroitel'nykh mashin. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 179 p. (MLRA 9:9)
(Building machinery--Maintenance and repair)

PALIN, V. A.

"Investigation of the fusibility of the quadruple system from potassium nitrates, silver, potassium, and sodium". Palin, V. A. (p. 941)

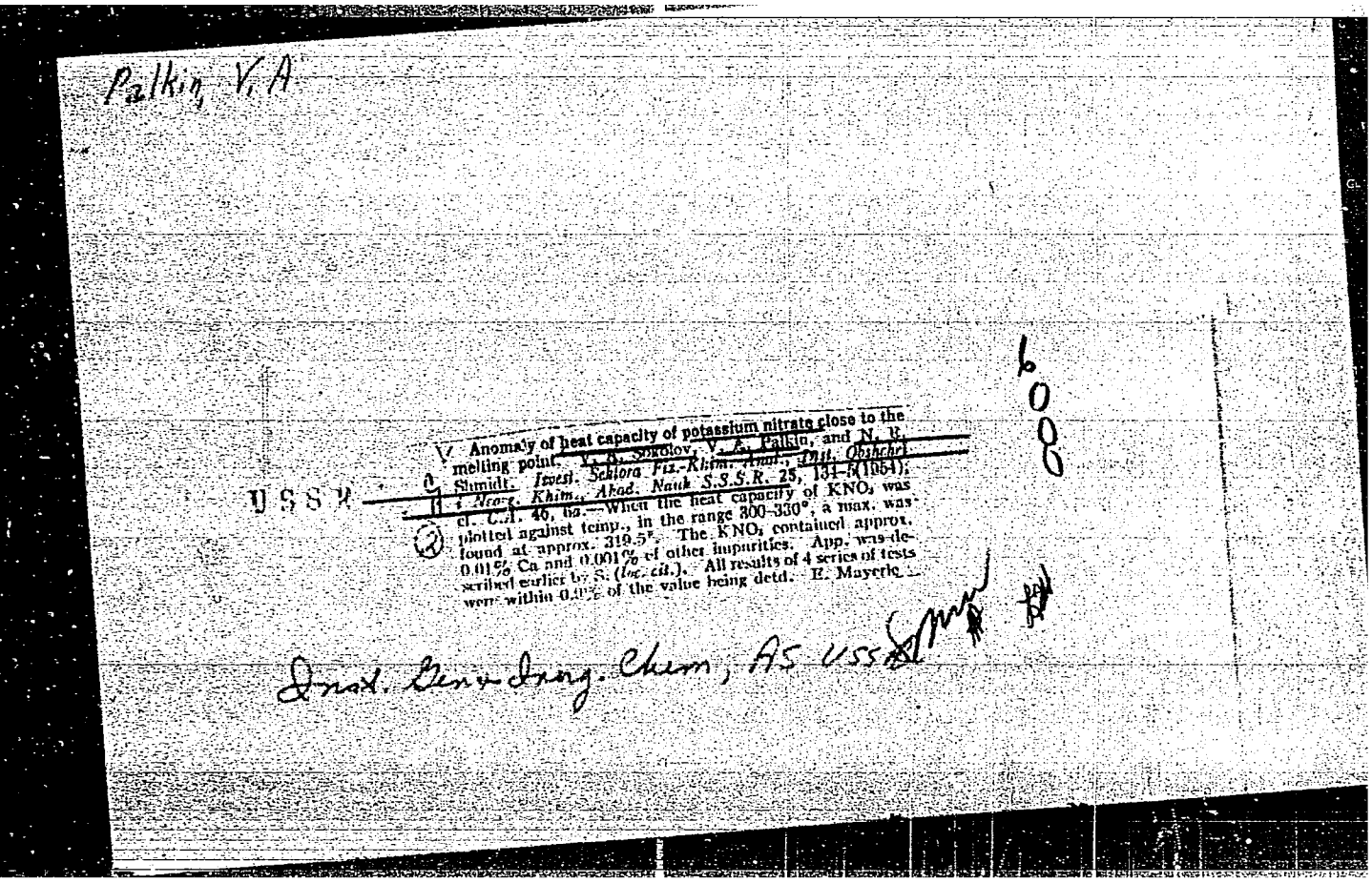
SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii) 1949, Vol. 19, No. 5.

PALKIN, V. A.

"Thermochemical Investigation of Ammonia Polyammoniates of Complex Compounds of Bivalent Platinum." Cand Chem Sci, Inst of General and Inorganic Chemistry imeni N. S. Kurnakov, Acad Sci USSR. Cand. Chemical Sci

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55



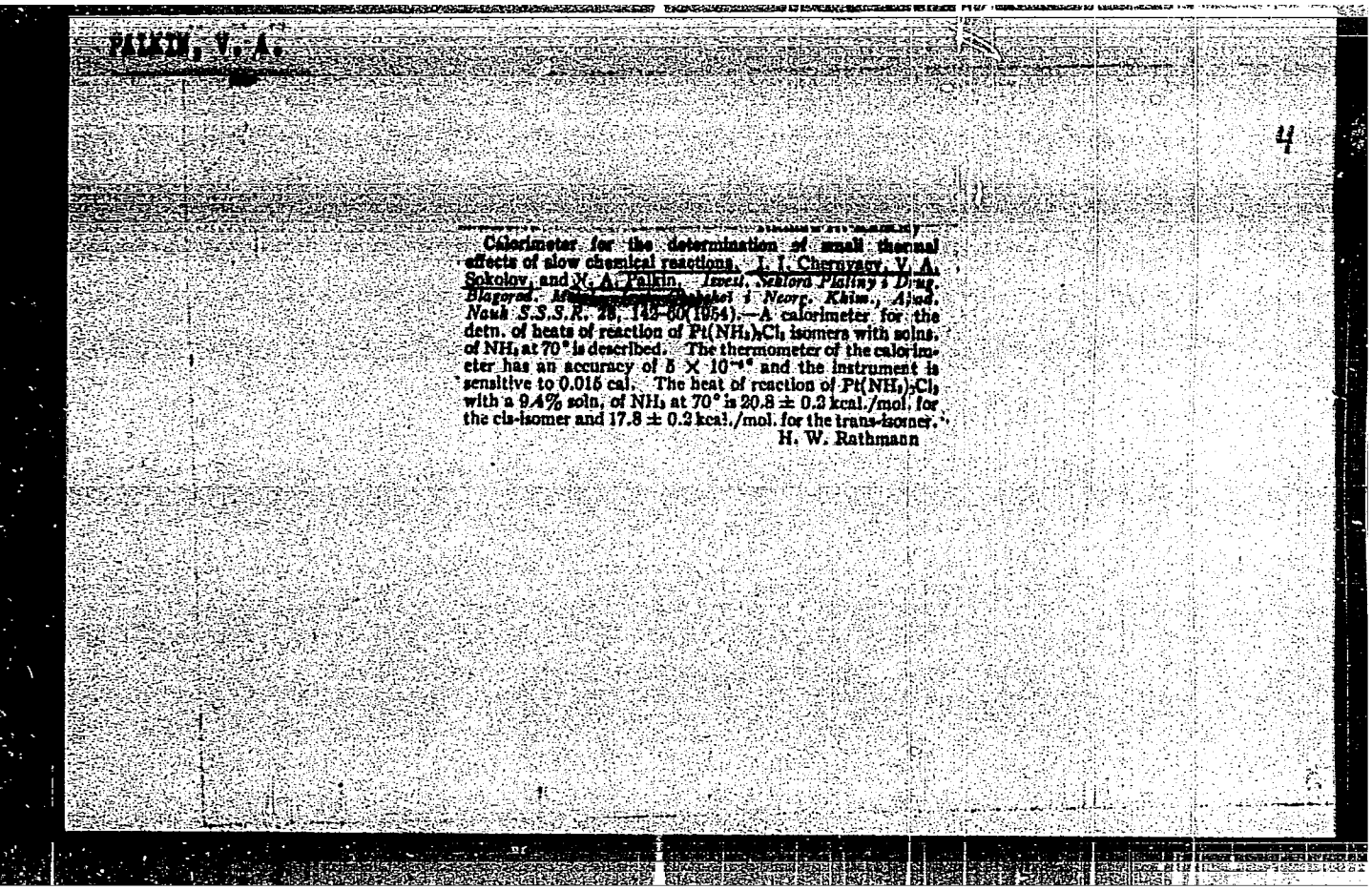
Palkin, V.A.

USSR

Anomaly of heat capacity of potassium nitrate close to the melting point. V. A. Sokolov, V. A. Palkin, and N. P. Stumidk. *Izvest. Sektora Fiz.-Khim. Analiza, Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 25, 131–6(1954); cf. *C.A.* 46, 6a.—When the heat capacity of KNO_3 was plotted against temp., in the range 300–330°, a max. was found at approx. 319.5°. The KNO_3 contained approx. 0.01% Ca and 0.001% of other impurities. App. was described earlier by S. (*loc. cit.*). All results of 4 series of tests were within 0.4% of the value being detd. E. Mayerle

Inst. Gen. Inorg. Chem., AS USSR

608

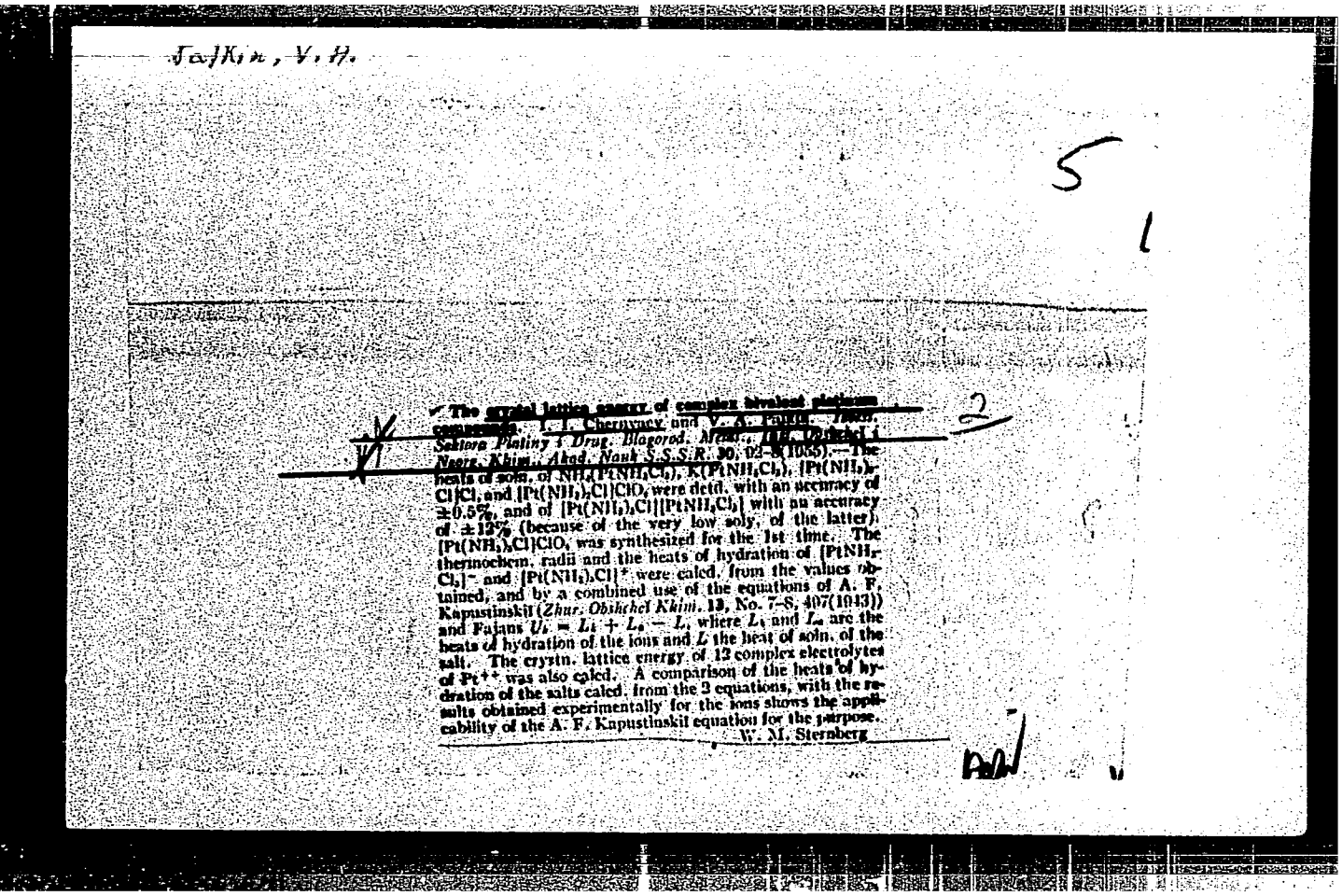


PALKIN, V. A.

4

Calorimeter for the determination of small thermal effects of slow chemical reactions. L. I. Chernyaev, V. A. Sokolov, and V. A. Palkin. *Izvest. Sektora Platiny i Drug. Blagorod. Metallov Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 28, 142–50(1954).—A calorimeter for the detn. of heats of reaction of $Pt(NH_3)_2Cl_2$ isomers with solns. of NH_3 at 70° is described. The thermometer of the calorimeter has an accuracy of 5×10^{-4}° and the instrument is sensitive to 0.015 cal. The heat of reaction of $Pt(NH_3)_2Cl_2$ with a 9.4% soln. of NH_3 at 70° is 20.8 ± 0.2 kcal./mol. for the cis-isomer and 17.8 ± 0.2 kcal./mol. for the trans-isomer.

H. W. Rathmann



Tatkin, V. N.

5
1

The crystal lattice energy of complex bivalent platinum compounds. I. V. Cherpuvacy and V. A. Fadin. *Trudy Sektora Platiny i Drug. Blagorod. Metallov, Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 30, 92–8 (1955).—The heats of soln. of $NH_4[PtNH_3Cl_3]$, $K[PtNH_3Cl_3]$, $[Pt(NH_3)_4]Cl_2$, and $[Pt(NH_3)_4Cl]ClO_4$ were detd. with an accuracy of ±0.5%, and of $[Pt(NH_3)_4Cl][PtNH_3Cl_3]$ with an accuracy of ±12% (because of the very low soly. of the latter). $[Pt(NH_3)_4Cl]ClO_4$ was synthesized for the 1st time. The thermochem. radii and the heats of hydration of $[PtNH_3Cl_3]^-$ and $[Pt(NH_3)_4Cl]^+$ were calcd. from the values obtained, and by a combined use of the equations of A. F. Kapustinskii (*Zhur. Obshchei Khim.* 13, No. 7–8, 407(1943)) and Fajans $U_i = L_i + L_a - L$, where L_i and L_a are the heats of hydration of the ions and L the heat of soln. of the salt. The crystn. lattice energy of 12 complex electrolytes of Pt^{++} was also calcd. A comparison of the heats of hydration of the salts calcd. from the 2 equations, with the results obtained experimentally for the ions shows the applicability of the A. F. Kapustinskii equation for the purpose.
W. M. Sternberg

PALKIN, V. A.

The heat of solution and the energy of the crystal lattice for the tetrammines of bivalent platinum. I. I. Chernyaev and V. A. Palkin. *Zhur. Neorg. Khim.* 1, 890-3(1956); cf. C.A. 50, 05152.—The heat of soln. of $[Pt(NH_3)_4]Cl_2$, $[Pt(NH_3)_4]I_2$, and $[Pt(NH_3)_4](NO_3)_2$ in H_2O was measured at 25° and found to be −20.05, −28.9, and −37.1 cal./g., resp. The lattice energy was calcd. for $[Pt(NH_3)_4]X_2$, where X = F, Cl, I, Br, NO_3, with the equations of Kapustinskii and Fajans. The values were 388, 351, 340, 325, 342 kcal./mole, resp.

J. Roytur Leach

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S/078/60/005/04/010/040
B004/B007

AUTHORS: Chernyayev, I. I., Palkin, V. A., Baranova, R. A.

TITLE: The Heats of Formation and the Specific Heats of the Tetraammine and Triammine of Bivalent Platinum

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 4, pp 821 - 831 (USSR)

ABSTRACT: In the introduction, the authors refer to papers by A. F. Kapustinskiy, K. B. Yatsimirskiy, A. A. Grinberg, and B. V. Ptitsyn. For the purpose of determining the heats of formation of $[Pt(NH_3)_4]Cl_2$ and $[Pt(NH_3)_3Cl]Cl$, the heat effect produced by interaction between potassium- and ammonium-chloroplatinites with 9.4% aqueous ammonia solution was measured at 70°. For the purpose of conversion to 25°, the specific heats of all compounds taking part in the reaction as well as of their solutions were determined in a 9.4% ammonia solution within the interval of 25 to 70°, viz. for $K_2[PtCl_4]$, $(NH_4)_2[PtCl_4]$, $[Pt(NH_3)_4]Cl_2$, $[Pt(NH_3)_3Cl]Cl$, KCl, and NH_4Cl. The calorimeter and the method are described in references 1-4. Dehydration and treatment of hygroscopic tetraammine is dealt with in reference 2. Tables 1

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and 2 give the measured heat effects of the reactions with an NH_3 solution as well as the solution heats. The results obtained by measuring specific heat are given in table 3, and are graphically represented in a figure. Within the investigated region, all specific heats depend linearly on temperature. The angle of inclination of the straight line in the diagram: specific heat - temperature increases with an increase in the number of ammonia molecules in the inner sphere of the ammine complexes of Pt(II). The authors mention their calculation of the heats of formation of $[Pt(NH_3)_4]Cl_2$ (177.1 kcal/mol) and $[Pt(NH_3)_3Cl]Cl$ (147.5 kcal/mol). As the heat of formation was calculated as the algebraic sum of a large number of summands, the authors estimate the error at ± 1 kcal/mol or $\pm 0.6\%$. The chemical analysis of the compounds investigated was carried out by M.N. Lyashenko. There are 1 figure, 3 tables, and 12 references, 9 of which are Soviet.

SUBMITTED: January 23, 1959

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S/078/60/005/007/018/043
B004/B060

5

AUTHORS: Chernyayev, I. I., Palkin, V. A., Baranova, R. A., Kuz'mina, N. N.

TITLE: Formation Heats and Specific Heats of Chloro Ammine Compounds of Bivalent Platinum

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 7, pp. 1428 - 1440

TEXT: The authors attempted to improve the accuracy of data so far available on the formation heat and specific heat of chloro ammine complexes of Pt^{II}, and to fill the gap for compounds hitherto left unconsidered. For their purposes, they made use of a specially designed calorimeter, a description of which is given in Ref.12. The heat effect of $NH_4 PtNH_3Cl_3$ interaction with a 9.4% ammonia solution was measured at 70°C, as well as the specific heat of compounds $Pt(NH_3)_3Cl_2 \cdot PtNH_3Cl_3$; $Pt(NH_3)_3Cl_2 \cdot PtCl_4$; $NH_4 PtNH_3Cl_3$, and $Pt(NH_3)_4 \cdot PtNH_3Cl_3$ between

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Formation Heats and Specific Heats of Chloro Ammine Compounds of Bivalent Platinum

25° and 70°C. The synthesis of these compounds is briefly described, and analytical data are given. The crystallo-optical analysis (for $[Pt(NH_3)_3Cl]_2 \cdot PtNH_3Cl_3$ made by M. M. Lyashenko) confirmed the absence of impurities. The specific heats found for compounds $Pt(NH_3)_3Cl_2 \cdot PtNH_3Cl_3$ and $Pt(NH_3)_3Cl_2 \cdot PtCl_4$ are given in Tables 1,2, Figs.1,2. Here, the spread of experimental data was ±1%. By allowing temperature in the calorimeter to rise more rapidly, the spread for the other compounds (Tables 3,4, Figs.3,4) was reduced to 0.5%. The formation heats of $NH_4PtNH_3Cl_3$ and of the isomers of the composition $(PtCl_2 \cdot 2NH_3)_n$, (n = 1,2,3) were determined on the basis of the corresponding thermochemical cyclic processes according to Hess. Calculated heat effects of the interaction of the following compounds with gaseous NH_3 are indicated ($_{sd}$ - solid):

$(NH_4)_2PtCl_{4\,sd} + 4NH_{3\,gas} = Pt(NH_3)_4Cl_{2\,sd} + 2NH_4Cl_{sd} + 88.4$ kcal/mole

$K_2PtCl_{4\,sd} + 4NH_{3\,gas} = Pt(NH_3)_4Cl_{2\,sd} + 2KCl_{sd} + 86.9$ kcal/mole

$NH_4PtNH_3Cl_{3\,sd} + 3NH_{3\,gas} = Pt(NH_3)_4Cl_{2\,sd} + NH_4Cl_{sd} + 66.8$ kcal/mole

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Formation Heats and Specific Heats of [illegible] B/079/6[illegible]
Ammine Compounds of Bivalent Platinum B004/B060

cis- $Pt(NH_3)_2Cl_{2\,sd} + 2NH_{3\,gas} = Pt(NH_3)_4Cl_{2\,sd}$ + 40.2 kcal mole

trans- $Pt(NH_3)_2Cl_{2\,sd} + 2NH_{3\,gas} = Pt(NH_3)_4Cl_{2\,sd}$ + [illegible] kcal/mole

$Pt(NH_3)_3Cl_2 \cdot PtNH_3Cl_{3\,sd} + 2{\cdot}2NH_{3\,gas} = 2\,Pt(NH_3)_4Cl_{2\,sd}$ + 2·39.9kcal/mole

$Pt(NH_3)_3Cl_2 \cdot PtCl_{4\,sd} + 3{\cdot}2NH_{3\,gas} = 3\,Pt(NH_3)_4Cl_{2\,sd}$ + 3·37.9 kcal/mole

$Pt(NH_3)_4 \cdot PtNH_3Cl_3 \cdot 2 + 3{\cdot}2NH_{3\,gas} = 3\,Pt(NH_3)_4Cl_{2\,sd}$ + 3·39.2 kcal/mole

$Pt(NH_3)_3Cl\,Cl_{sd} + NH_{3\,gas} = Pt(NH_3)_4Cl_{2\,sd}$ + 18.5 kcal/mole. Fig.2 shows the molar specific heats of all compounds of the Werner-Miolatti series, and compares them with the values for $NaNO_3$ and KNO_3 supplied by V. A. Sokolov and N. Ye. Shmidt. The molar specific heats of trimer and dimer of the composition $n(PtCl_2 \cdot 2NH_3)$ are shown in Fig.6: Molar specific heats. .

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Formation Heats and Specific Heats of Chloro Ammine Compounds of Bivalent Platinum

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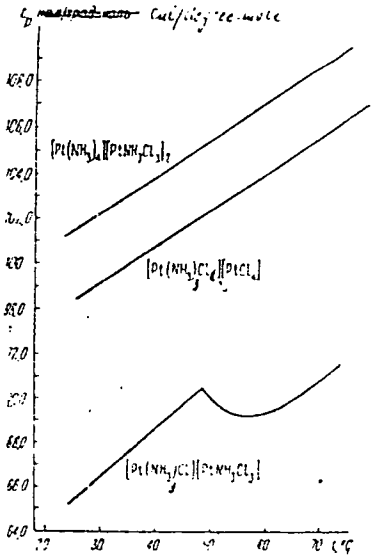
B004/B060



A striking aspect is the anomaly of $Pt(NH_3)_3Cl \cdot PtNH_3Cl_3$ at 48°C, as is characteristic of a phase transformation of the second order. Table 6 gives the following formation heats: $Pt(NH_3)_4Cl_2$, $-H$ = 177.1 kcal/mole; $Pt(NH_3)_3Cl\,Cl$, $-H$ = 147.5 kcal/mole; $NH_4PtNH_3Cl_3$, $-H$ = 152.6 kcal/mole; cis-$Pt(NH_3)_2Cl_2$, $-H$ = 115.0 kcal/mole; trans-$Pt(NH_3)_2Cl_2$, $-H$ = 118.0 kcal/mole; $Pt(NH_3)_3Cl \cdot PtNH_3Cl_3$, $-H$=230 kcal/mole; $Pt(NH_3)_3Cl_2 \cdot PtCl_4$, $-H$ = 351 kcal/mole; $Pt(NH_3)_4 \cdot PtNH_3Cl_3{}_2$, $-H$=348 kcal/mole.

A paper by A. D. Gel'man is mentioned.

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3626

Formation Heats and Specific Heats of Chloro Ammine Compounds of Bivalent Platinum

S/078/60/005/007/018/043/XX
B004/B060

There are 6 figures, 6 tables, and 21 references: 18 Soviet, 1 US, and 3 French.

SUBMITTED: March 3, 1959

Card 5/5

B004/B060

AUTHORS: Ablov, A. V., Konunova-Frid, Ts. B., Palkin, V. A.

TITLE: Heats of Addition of Aniline and Its Derivatives to Cobalt Chloride

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 7, pp. 1544-1550

TEXT: The authors study the problem as to whether the addition of amines, aniline, and aniline derivatives to $CoCl_2$ has a covalent or a dipole-ionic character. The latter assumption leads to a contradiction since p-chloro aniline with a distinct pole concentrated on the chlorine atom does not add with it but, like aniline, with the nitrogen atom. To clarify this problem, the authors determined calorimetrically the heats of addition of aniline, p-toluidine, p-chloro aniline, and p-bromo aniline, to anhydrous $CoCl_2$ at 25°C in 2 N hydrochloric acid. They started from the following cyclic process:

Heats of Addition of Aniline and Its Derivatives to Cobalt Chloride

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B004/B060

$CoCl_2$, 2 [{amine}] L_1 $CoCl_2$, 2 [{amine}]
solution

Q^* L_2

$[CoCl_2 \cdot 2\ amine]$ L $CoCl_2$, 2 amine
solut. solut.

Q^* denotes the formation heat of the addition products at the experimental temperature and the given state of the amine, L the solution heat of the addition products, L_1 the solution heat of $CoCl_2$, and L_2 the solution heat of the amine. The calorimeter used is described in a paper by I. I. Chernyayev, V. A. Sokolov, and V. A. Palkin (Refs. 11, 12). Q^* was calculated from the experimental data as being 15.66 kcal/mole for $CoCl_2 \cdot 2H_2NC_6H_5$, 12.40 kcal/mole for $CoCl_2 \cdot 2H_2NC_6H_4CH_3$, 9.36 kcal/mole for $CoCl_2 \cdot 2p\text{-}H_2NC_6H_4Cl$, and 9.71 kcal/mole for $CoCl_2 \cdot 2p\text{-}H_2NC_6H_4Br$. In the

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Heats of Addition of Ammine
Derivatives to Cobalt Chloride

to obtain comparable data, the approximate values of the heats of addition of gaseous amines on entering into the enlarged lattice of $CoCl_2$ were calculated on the basis of the respective cyclic process.

$A = Q^{\prime}_{gas} + (S_{CoCl_2} - S_{CoCl_2 amine})$, where Q denotes the sublimation heats on the assumption that no dissociation takes place. A is the addition energy. The value of $S_{CoCl_2} - S_{CoCl_2 amine}$ is defined as being the work required for the expansion of the layered lattice of $CoCl_2$ to the molecular lattice of the addition product. The authors observe that this notion must not be mixed up with the "expansion work" of an ionic lattice according to W. Biltz (Ref. 7). Table 2 gives the parameters of the elementary cell in kX, the angle β, the volume V of the elementary cell in Å, the number n of formula units situated in the elementary cell, and the volume V' of the formula unit. Table 2:

V

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Heats of Addition of Aniline and Its Derivatives to Cobalt Chloride

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B004/B004

Соединение * compound	Периоды решетки, Å periods a	b	c	β	$V_{A'}^{c}$	n	$V_{A'}^{o}$
1 $CoCl_2 \cdot 2n\text{-}H_2NC_6H_4CH_3$	12,30±0,05	4,59±0,01	20,10±0,1	93°45±5'	1474	4	363,5
2 $CoCl_2 \cdot 2n\text{-}H_2NC_6H_4J$	12,00	4,66	21,3	93°18'	1758	4	439,5
3 $CoJ_2 \cdot 2n\text{-}H_2NC_6H_5$	13,75	5,15	23,8	91°45'	1660	4	415,0
4 $CoJ_2 \cdot 2n\text{-}H_2NC_6H_4CH_3$	16,75	5,08	41,2	90°,00	3500	8	437,5

In accordance with Ref. 16, a volume of 14' A^3 is assumed for the formula unit. Q'_{gas} is calculated from the equation $Q_{gas} = Q' + 2L_m + 2L_{ev}$ (L_m = melting heat, L_{ev} = evaporation heat of the amine at 25°C). Table 3 gives the boiling point, melting point, melting and evaporation heats of $C_6H_5NH_2$, $p\text{-}H_2NC_6H_4CH_3$, and $p\text{-}H_2NC_6H_4Cl$. Part of these data were taken from literature, and part were calculated according to Nernst (Ref. 24). After correcting these data for the temperature of 25°C, the authors obtain the following values for Q'_{gas}: $CoCl_2 \cdot 2C_6H_5NH_2$ 43.2 kcal/mole;

$CoCl_2 \cdot 2p\text{-}H_2NC_6H_4CH_3$ 45.2 kcal/mole; $CoCl_2 \cdot 2p\text{-}H_2NC_6H_4Cl$ 45.2 kcal/mole;

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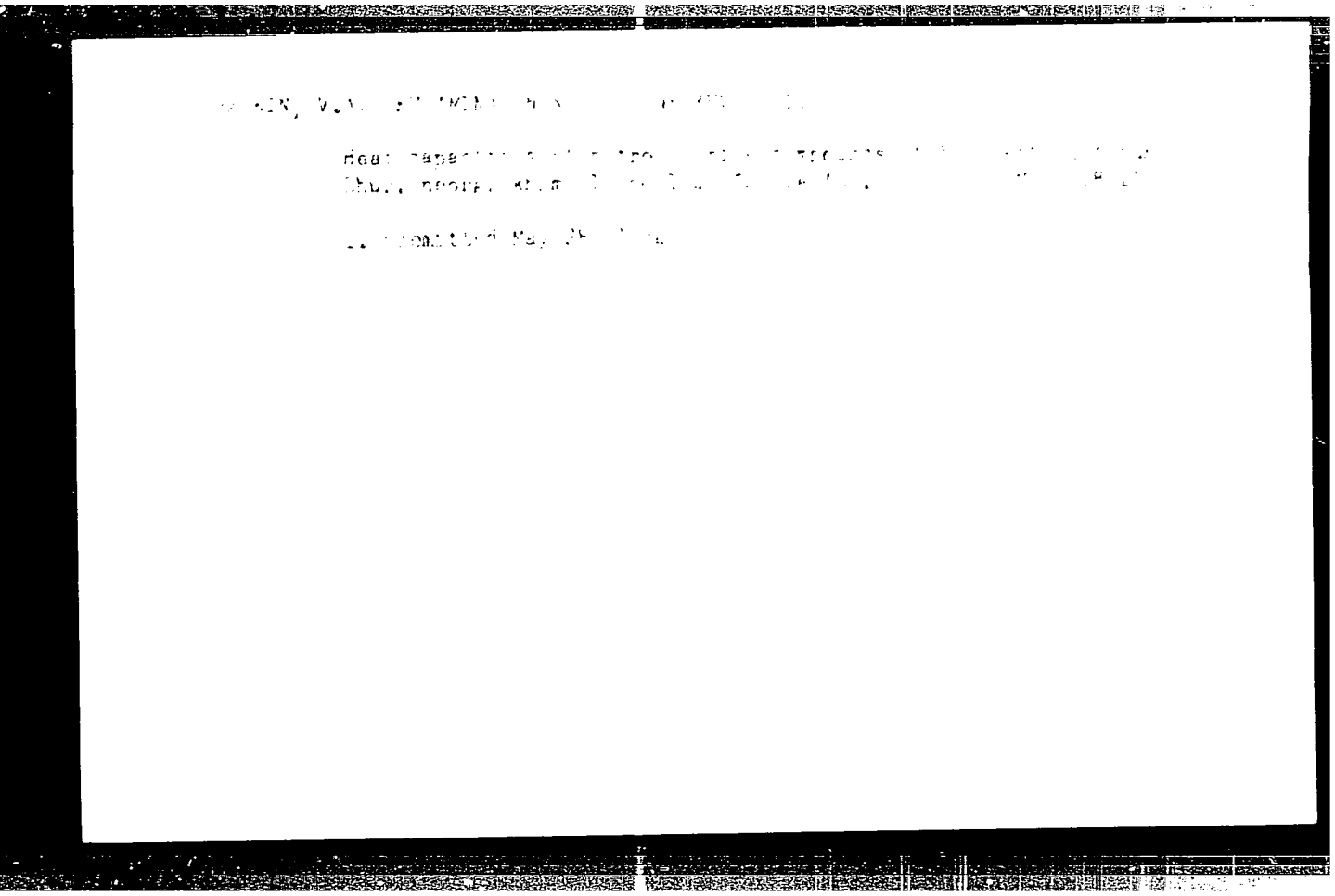
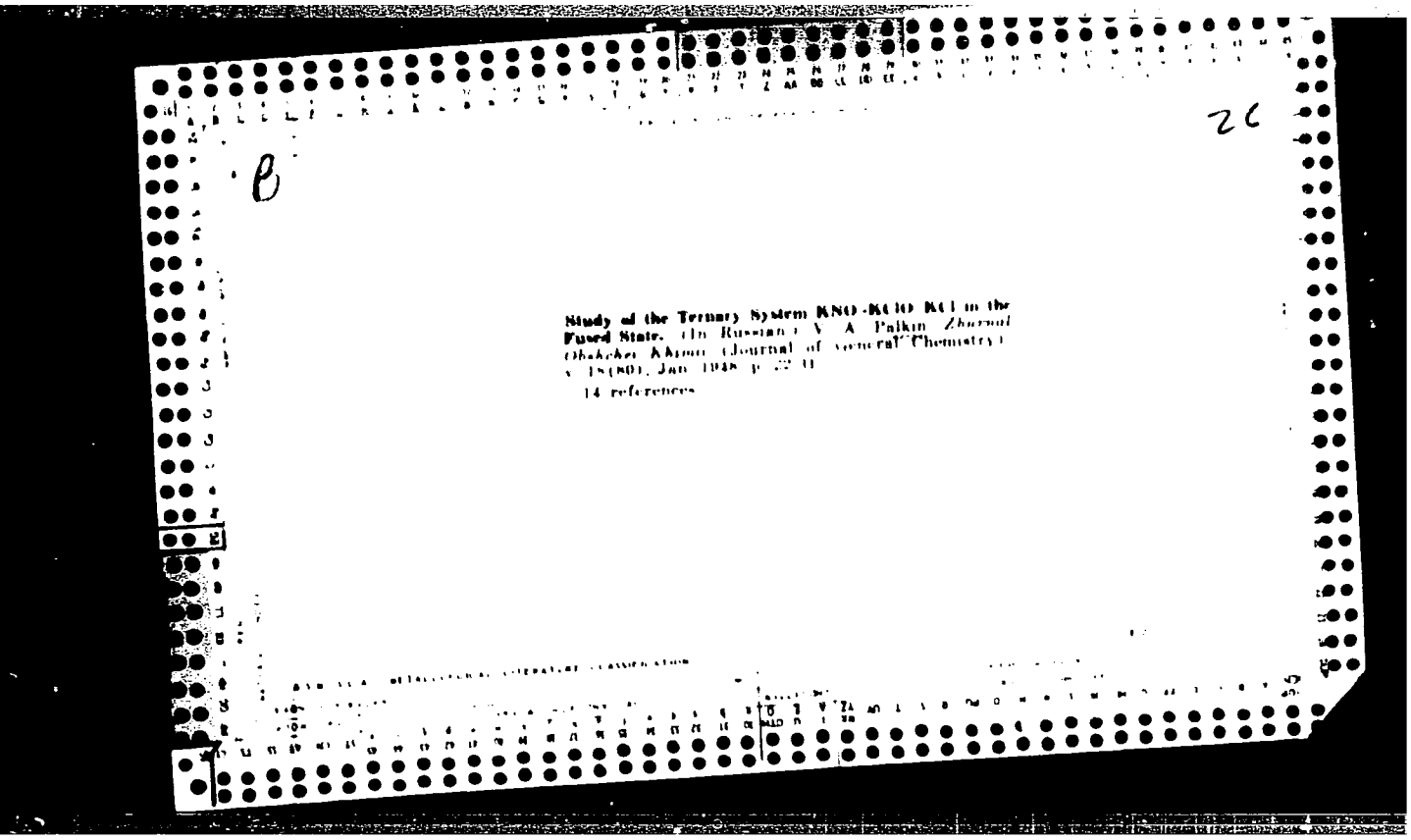
$CoCl_2 2p\text{-}H_2NC_6H_4Br$ 44.[illegible] kcal/mole. The substituents on the benzene ring, thus, have little effect on the value of Q^{*}_{gas}. The Co-N bond of these addition products is not dependent on the dipole moment of the addendum, and therefore probably has a covalent character. A paper by T. I. Malinovskiy is mentioned. There are 3 tables and 25 references: 16 Soviet, 2 US, 7 British, and 5 German.

ASSOCIATION: Kishinevskiy gosudarstvennyy universitet (Kishinev State University). 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: March 16, 1959





Study of the Ternary System KNO_3-K_2CO_3-KCl in the Fused State. (In Russian.) V. A. Palkin. *Zhurnal Obshchei Khimii* (Journal of General Chemistry) v. 18(80), Jan 1948, p. [illegible]

14 references

PROCESSES AND PROPERTIES INDEX

2

Ternary system KNO_3-$KClO_3$-KCl. V. A. Palkin. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 18, 23-31 (1948). The binary system KCl-$KClO_3$ was studied as well as the ternary system, the other two binary systems having already been investigated. The binary system is a simple one with no solid solns. and no compds.; the eutectic occurs at 345°, at 87.35 mol. % $KClO_3$. The ternary system was studied by making up binary mixts. of known proportions and adding the 3rd component in varying amts. There are 3 principal parts to the diagram: one in which the solid phase is a binary solid soln. of KNO_3 and $KClO_3$; another where the solid phase is the binary compd. KNO_3.KCl; and a 3rd where the solid phase is KCl.

Arild J. Miller

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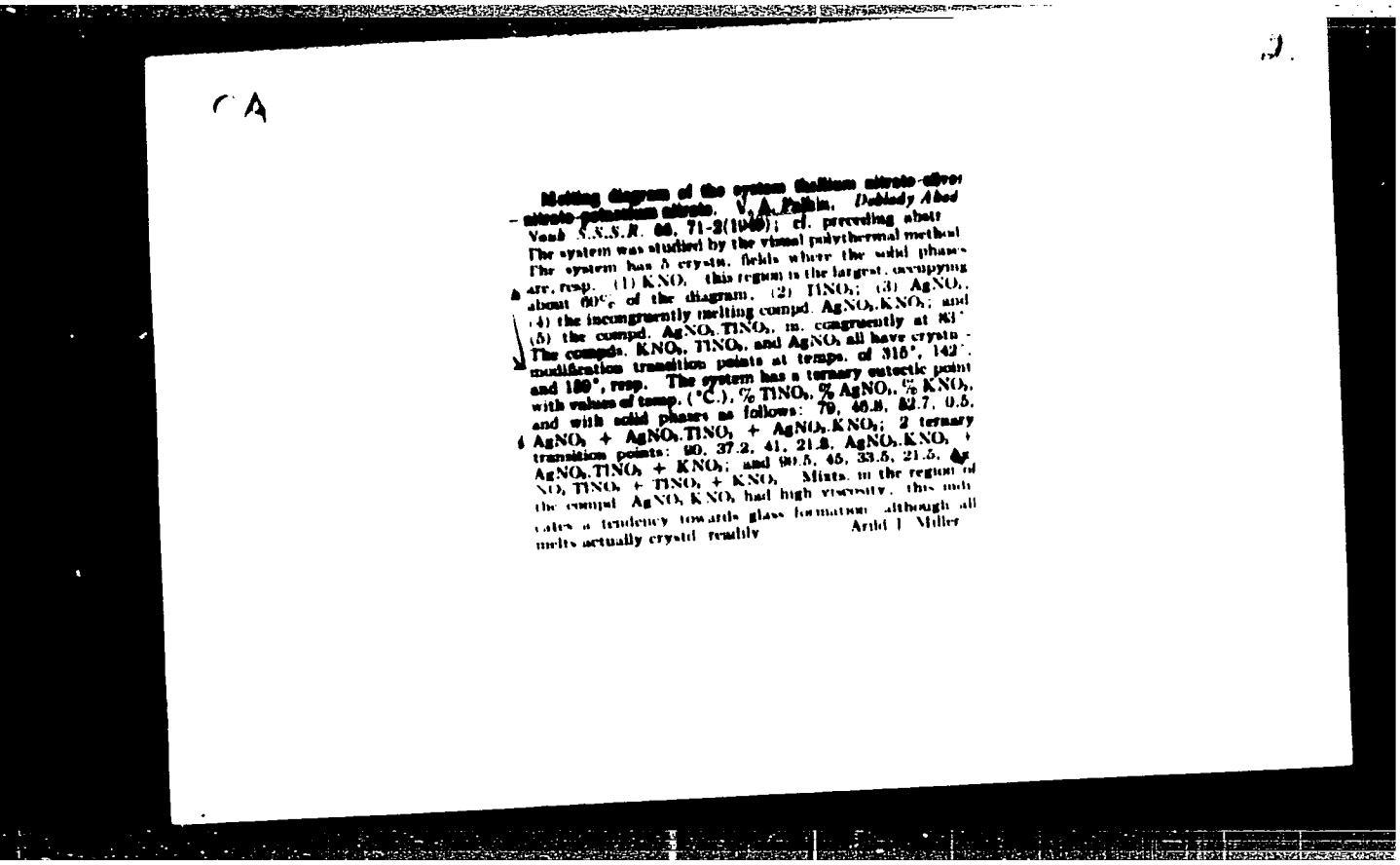
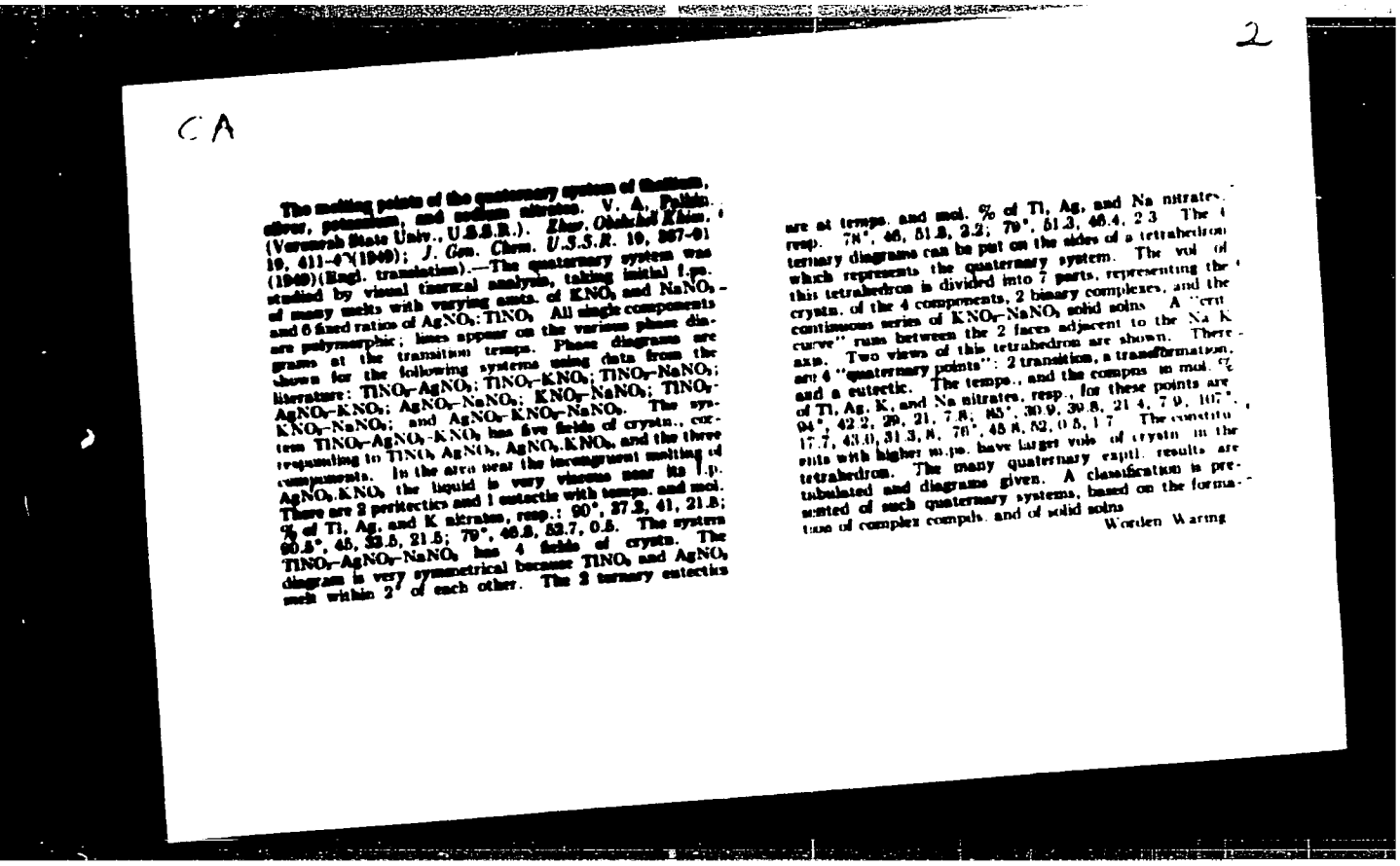


CA

Melting diagram of the system thallium nitrate-silver nitrate-potassium nitrate. V. A. Paklin. *Doklady Akad Nauk S.S.S.R.* 66, 71-3(1949); cf. preceding abstr. The system was studied by the visual polythermal method. The system has 5 crystn. fields where the solid phases are, resp.: (1) KNO_3, this region is the largest, occupying about 60% of the diagram; (2) $TlNO_3$; (3) $AgNO_3$; (4) the incongruently melting compd. $AgNO_3.KNO_3$; and (5) the compd. $AgNO_3.TlNO_3$, m. congruently at 83°. The compds. KNO_3, $TlNO_3$, and $AgNO_3$ all have crystn.-modification transition points at temps. of 316°, 142°, and 159°, resp. The system has a ternary eutectic point with values of temp. (°C.), % $TlNO_3$, % $AgNO_3$, % KNO_3, and with solid phases as follows: 79, 46.8, 32.7, 0.5, $AgNO_3$ + $AgNO_3.TlNO_3$ + $AgNO_3.KNO_3$; 2 ternary transition points: 90, 37.2, 41, 21.8, $AgNO_3.KNO_3$ + $AgNO_3.TlNO_3$ + KNO_3; and 90.5, 45, 33.5, 21.5, $AgNO_3.TlNO_3$ + $TlNO_3$ + KNO_3. Mixts. in the region of the compd. $AgNO_3.KNO_3$ had high viscosity, this indicates a tendency towards glass formation although all melts actually crystd. readily. Arthur J. Miller



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CA

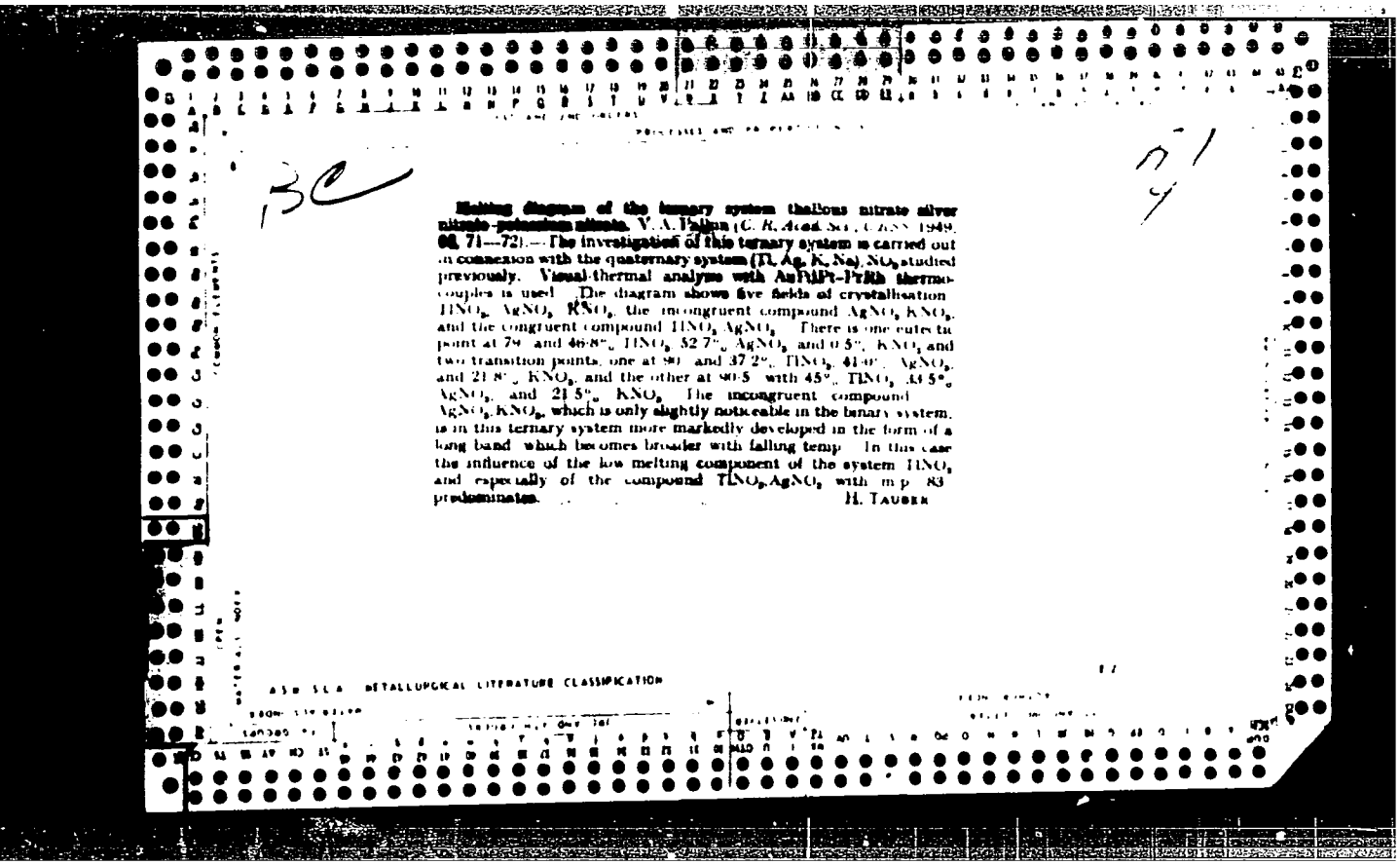
The melting points of the quaternary system of thallium, silver, potassium, and sodium nitrates. V. A. Fyshin. (Voronezh State Univ., U.S.S.R.). *Zhur. Obshchei Khim.* 19, 411-4 (1949); *J. Gen. Chem. U.S.S.R.* 19, 397-401 (1949)(Engl. translation).—The quaternary system was studied by visual thermal analysis, taking initial f.ps. of many mixts with varying amts. of KNO_3 and $NaNO_3$ and 6 fixed ratios of $AgNO_3$:$TlNO_3$. All single components are polymorphic; lines appear on the various phase diagrams at the transition temps. Phase diagrams are shown for the following systems using data from the literature: $TlNO_3$–$AgNO_3$; $TlNO_3$–KNO_3; $TlNO_3$–$NaNO_3$; $AgNO_3$–KNO_3; $AgNO_3$–$NaNO_3$; KNO_3–$NaNO_3$; $TlNO_3$–KNO_3–$NaNO_3$; and $AgNO_3$–KNO_3–$NaNO_3$. The system $TlNO_3$–$AgNO_3$–KNO_3 has five fields of crystn., corresponding to $TlNO_3$, $AgNO_3$, $AgNO_3$.KNO_3, and the three components. In the area near the incongruent melting of $AgNO_3$.KNO_3 the liquid is very viscous near its f.p. There are 2 peritectics and 1 eutectic with temps. and mol. % of Tl, Ag, and K nitrates, resp.: 90°, 37.5, 41, 21.5; 80.5°, 45, 33.5, 21.5; 79°, 46.8, 53.7, 0.5. The system $TlNO_3$–$AgNO_3$–$NaNO_3$ has 4 fields of crystn. The diagram is very symmetrical because $TlNO_3$ and $AgNO_3$ melt within 2° of each other. The 2 ternary eutectics are at temps. and mol. % of Tl, Ag, and Na nitrates, resp. 78°, 46, 51.8, 2.2; 79°, 51.3, 46.4, 2.3. The 4 ternary diagrams can be put on the sides of a tetrahedron which represents the quaternary system. The vol. of this tetrahedron is divided into 7 parts, representing the crystn. of the 4 components, 2 binary compdns., and the continuous series of KNO_3–$NaNO_3$ solid solns. A "crit curve" runs between the 2 faces adjacent to the Na K axis. Two views of this tetrahedron are shown. There are 4 "quaternary points": 2 transition, a transformation, and a eutectic. The temps., and the compns. in mol. % of Tl, Ag, K, and Na nitrates, resp., for these points are 94°, 42.2, 29, 21, 7.8; 85°, 30.9, 39.8, 21.4, 7.9, 107°, 17.7, 43.0, 31.3, 8, 76°, 45.8, 52, 0.5, 1.7. The constituents with higher m.pts. have larger vols. of crystn. in the tetrahedron. The many quaternary equil. results are tabulated and diagrams given. A classification is presented of such quaternary systems, based on the formation of complex compds. and of solid solns.

Worden Waring

2

CA

Melting-point diagram of the ternary system thallium nitrate–silver nitrate–sodium nitrate. V. A. Pukhl. *Doklady Akad. Nauk S.S.S.R.* 66, 651–2(1949). The system was studied by the visual polythermal method. There are 4 fields of cryst. where the solid phases are, resp.: (1) $NaNO_3$—this field occupies approx. 90% of the diagram; (2) the compd. $AgNO_3.TlNO_3$—a very small region; (3) $AgNO_3$ and (4) $TlNO_3$—the latter 2 regions are symmetrical and almost equal in area. All 3 pure compds. have transition points, dividing their respective regions into 2 parts: $AgNO_3$ at 159°, $TlNO_3$ at 142°, and $NaNO_3$ at 275°. There are 2 ternary eutectic points where $NaNO_3$ and $AgNO_3.TlNO_3$ are in equil. with $AgNO_3$ in the one case and with $TlNO_3$ in the other; the former m. 78° and contains 46% $TlNO_3$, 51.8% $AgNO_3$, and 2.2% $NaNO_3$; the latter m. 79° and contains 51.3% $TlNO_3$, 46.4% $AgNO_3$, and 2.3% $NaNO_3$. Arild J. Miller



Melting diagram of the ternary system thallous nitrate silver nitrate-potassium nitrate. V. A. Tsiplina (*C. R. Acad. Sci. U.R.S.S.* 1949, **66**, 71—72).—The investigation of this ternary system is carried out in connexion with the quaternary system (Tl, Ag, K, Na)NO_3 studied previously. Visual-thermal analysis with Au-Pt/Pt-Rh thermocouples is used. The diagram shows five fields of crystallisation $TlNO_3$, $AgNO_3$, KNO_3, the incongruent compound $AgNO_3.KNO_3$, and the congruent compound $TlNO_3.AgNO_3$. There is one eutectic point at 79° and 46·8% $TlNO_3$, 52·7% $AgNO_3$, and 0·5% KNO_3, and two transition points, one at 90° and 37·2% $TlNO_3$, 41·0% $AgNO_3$, and 21·8% KNO_3, and the other at 90·5° with 45% $TlNO_3$, 43·5% $AgNO_3$, and 21·5% KNO_3. The incongruent compound $AgNO_3.KNO_3$, which is only slightly noticeable in the binary system, is in this ternary system more markedly developed in the form of a long band which becomes broader with falling temp. In this case the influence of the low melting component of the system $TlNO_3$ and especially of the compound $TlNO_3.AgNO_3$ with m.p. 83° predominates.

H. Tauber

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

PALKIN, V. A.

USSR/Physical Chemistry. Thermodynamics, Thermochemistry. B-8
Equilibria. Physical-Chemical Analysis. Phase Transitions

Abs Jour: Ref Zhur-Khimiya. No 1, 1957, 1415

Author : I. I. Chernyayev, V. A. Palkin.
Inst :
Title : Heat of Solution and Energy of Crystal Lattice of Tetramines of Bivalent Platinum

Orig Pub: Zh. neorgan. khimii, 1956, 1, No 5, 890-893

Abstract: In order to determine the energy of crystal lattices (RZhKhim, 1956, 21909), the heat of solution of the salts $[Pt(NH_3)_4]Cl_2$ (I), $[Pt(NH_3)_4]I_2$ and $[Pt(NH_3)_4](NO_3)_2$ in water at 25° was measured. It is -7.00, -14.9 and -14.4 kcal per mole correspondingly. The measurement accuracy was 0.5 percent. The energy of crystal lattices of five platinum tetramines was computed using the equations of Kapustinskiy and Fayans. The heat of hydration of I (1.68 kcal per mole) is close to the heat of crystallization of pure water (1.44 kcal per mole)

Card 1/1

AUTHORS: Chernyayev, I.I , Palkin, V.A. Baranova, R.A. SOV/78-3-7-8/44

TITLE: A Calorimeter for the Determination of the True Thermal Capacity of the Complex Compounds of Platinum Metals (Kalorimetr dlya opredeleniya istinnoy teployemkosti kompleksnykh soyedineniy platinowykh metallow)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 7, pp 1512-1520 (USSR)

ABSTRACT: The complex compounds of platinum metals decompose at temperatures of between 200 and 250°C. In order to determine thermal capacity it is necessary that investigations be carried out at temperatures below 200°C.
A calorimeter was constructed and the working scheme for its automatic adjustment to temperatures of from 200 to 250°C is described. The sensitivity of the calorimeter is 2.10^{-3} cal. The necessary quantity of complex platinum compound is 3.5 - 4 g. Calibration of the calorimeter was carried out with KCl at 25°C. The thermal capacity of cis- and trans isomers of dichlorodiamine platinum complexes was determined, and it was found that both isomers have the

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A Calorimeter for the Determination of the True Thermal Capacity of the Complex Compounds of Platinum Metals SOV 75-3-7-8/44

same thermal capacity within the temperature interval of 25 80°C. There are 8 figures, 5 tables, and 15 references, 13 of which are Soviet

SUBMITTED: June 4 1957

1. Complex compounds--Thermochemistry 2. Complex compounds --Decomposition 3. Platinum--Properties 4. Calorimeters --Calibration

Card 2/2

PALKIN, V.A.; KUZ'MINA, N.N.; CHERNYAEV, [illegible]

Heat capacities of [illegible] ammonium compounds [illegible] platinum. Zhur. [illegible] khim. [illegible]

[illegible]

1. Institut [illegible] Kurnakova AN SSSR. Submitted April [illegible]

PALKIN, V.A.; KUZ'MINA, N.N.; CHERNYAYEV, I.I.

Enthalpies of the formation of platinum complex ammonium chloride compounds of platinum. Zhur.neorg.khim. 10 no.8:1792-1798 Ag '65. (MIRA 19:1)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR.

KAMARDINKIN, N.P.; SHUVAYEV, A.S.; PALKIN, V.I.; NEMKOVA, A.S.; TARABAN'KO, P.I.; KHOLMSKIY, R.V.; GRIPP, L.V.; DOBASHIN, G.S.; FLEROVA, L.I.; MAKSIMOV, N.N.; RAFIYENKO, I.I.; PAL'MOV, I.I.; UVAROV, I.M.; DUBROVIN, P.Ye.; LIKHACHEVA, O.A.; UVAROVA, I.I.

Conference of the Teaching Staff and Students of the Moscow Geological Prospecting Institute. Izv. vys. ucheb. zav.; geol. i razv. 6 no.12:143-148 D '63 (MIRA 18:2)

32483

S/011/61/000/011/012/021
D111/D212

AUTHOR: Palkin, V.K.

TITLE: Treatment of observations

PERIODICAL: Referativnyy zhurnal. Matematika, no. 10, 1961, 17, abstract 10 V 280 ("Morsk. sb.", 1961, no. 2, 115-[illegible])

TEXT: The author describes briefly the fundamental question of the evaluation of observation results and conditions for their application for the investigation of the errors of the solutions. The author considers three fundamental classes of measuring errors : rough errors, systematic errors and random errors. General data on the parameters of the normal law (standard σ), on the classical estimation of the reliability of measurements, on the most probable value of the magnitude of measurement (standard of the mean, estimation of instrumental errors with respect to an etalon, estimation od instrumental errors with respect to the mean) are given. Remarks on the estimation of the mean with respect to the selection standard are made. The author touches slightly the notion of the weight of the measurement, the errors of a function of

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C111/C222

Treatment of observations

approximate arguments. The author gives a general description of the question on the addition of the random errors in a direction and on the addition of the random error in the plane (error ellipse). Examples are given.

[Abstracter's note : Complete translation.]

Card 2/2

PALKIN, V.K., [illegible]

Simplest methods [illegible]. [illegible].
[illegible] no.8:68-78 Ag '[illegible] 18:7

MARSHIY, Ya.S., kand.tekh.nauk, inzh.-kapitan 2-go ranga; [illegible]Ya.,
inzh.-kapitan 3-go ranga; [illegible], V.K., inzh.-kapitan [illegible]
[illegible], S.P., kapitan 1-go ranga

Reviews. Mor. sbor. 40 no.11:90-94 N '57.

GEMKE, G.R.; PALKIN, V.N. (Ust'-Kamenogorsk)

Hepato-bronchial fistulas. Vrach. delo no.6:90-9. Je '61.
(MIRA 15:1)

1. Vostochno-Kazakhstanskaya oblastnaya bol'nitsa.
(FISTULA) (LIVER--DISEASES) (BRONCHI--DISEASES)

PALKIN,V.N.

Data on industrial hygien and occupational pathology. Title page. The problem of late silicosis. Trudy Inst.kraev. pat. AN Kazakh. SSR 9:3-11'61. (MIRA 16:7)
(LUNGS—DUST DISEASES)

PALKIN, V.N.

Dynamics of the silicotic process according to data of the "Gorniak"Sanatorium. Trudy Inst.kraev.pat.AN Kazakh. SSR 9: 15-21'61. (MIRA 16:7)

(LUNGS—DUST DISEASES)

PALKIN, V.N. (Ust'-Kamenogorsk, 18, pro.Lenina, d.24, kv.8)

Tomographic examination of the thoracic cage in siliconis. Vest. rent. i rad. 36 no.5:36-40 S-O '61. (MIRA 15:1)

1. Iz Ust'-Kamenogorskogo klinicheskogo otdeleniya (zav. - kand. med.nauk M.K.Kayrakbayev) Instituta krayevoy patologii AN Kazakhskoy SSR (dir. - kandidat med. nauk B.A. Atchabarov).
(LUNGS--DUST DISEASES) (CHEST--RADIOGRAPHY)

PALKIN, V.N.; GEMKE, G.R.

Diagnosis and treatment of eosinophilic pneumonia. Zdrav. Kazakh. 21 no.9:26-28 '61. (MIRA 14:10)

1. Iz Ust'-Kamenogorskogo klinicheskogo otdeleniya (zav. - kand.med. nauk M.K.Kayrakbayev) Instituta krayevoy patologii AN Kazakhskoy SSR.

(PNEUMONIA)

PODLESNOV, A.V.; BEKLEMISHEV, N.D.; PALKIN, V.N.

Effect of hormonal anti-inflammatory treatment and a complex of sanatorium and health resort factors in silicosis. Trudy Inst. kraev.pat. AN Kazakh.SSR 10:71-77 '62. (MIRA 16:5)
(LUNGS—DUST DISEASES)

PIMNEV, I.T., mashinist elektrovoza; PALKIN, V.S., inzh.

Effect of the moving direction of pantographsen the wear of contact wires. Elek. i tepl. tiaga 2 no.11:19-21 N '58. (MIRA 11:12)

1.Depo Moskovka Omskoy dorogi (for Pimnev).
(Pantograph) (Electric railroads--Wires and wiring)

PALKIN, V.S., inzh.

We must prevent increased wear on contact wires. Elek. i tep..
tiaga no.6:12 Je '58. (MIRA ..:·
(Electric railroads--Wires and wiring)

PALKIN, V.S.

Reliable self-propelling vehicle must be designed for repair squads. Elek.i tepl.tiaga 3 no.8:45 Ag '59.
(MIRA 12:12)

1. Starshiy inzhener sluzhby elektrifikatsii i energeticheskogo khozyaystva Omskoy dorogi.
(Motor vehicles) (Railroads)

PAIKIN, V.S., inzh.

Improved design for contact network compensators. Elek.i tepl. tiaga 3 no.5:27 My '59. (MIRA 12:9)

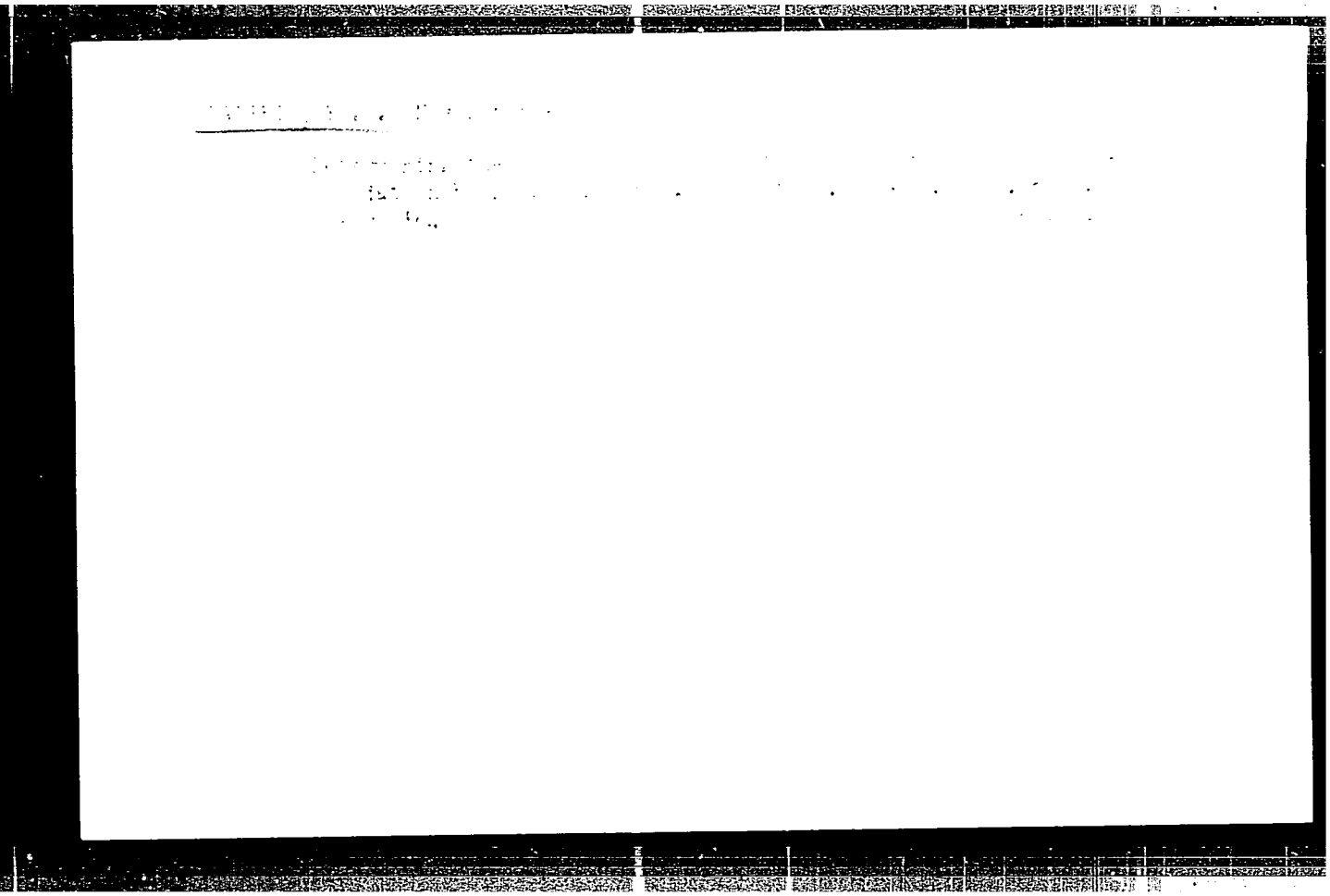
1. Omskaya doroga.
(Electric railroads--Wires and wiring)

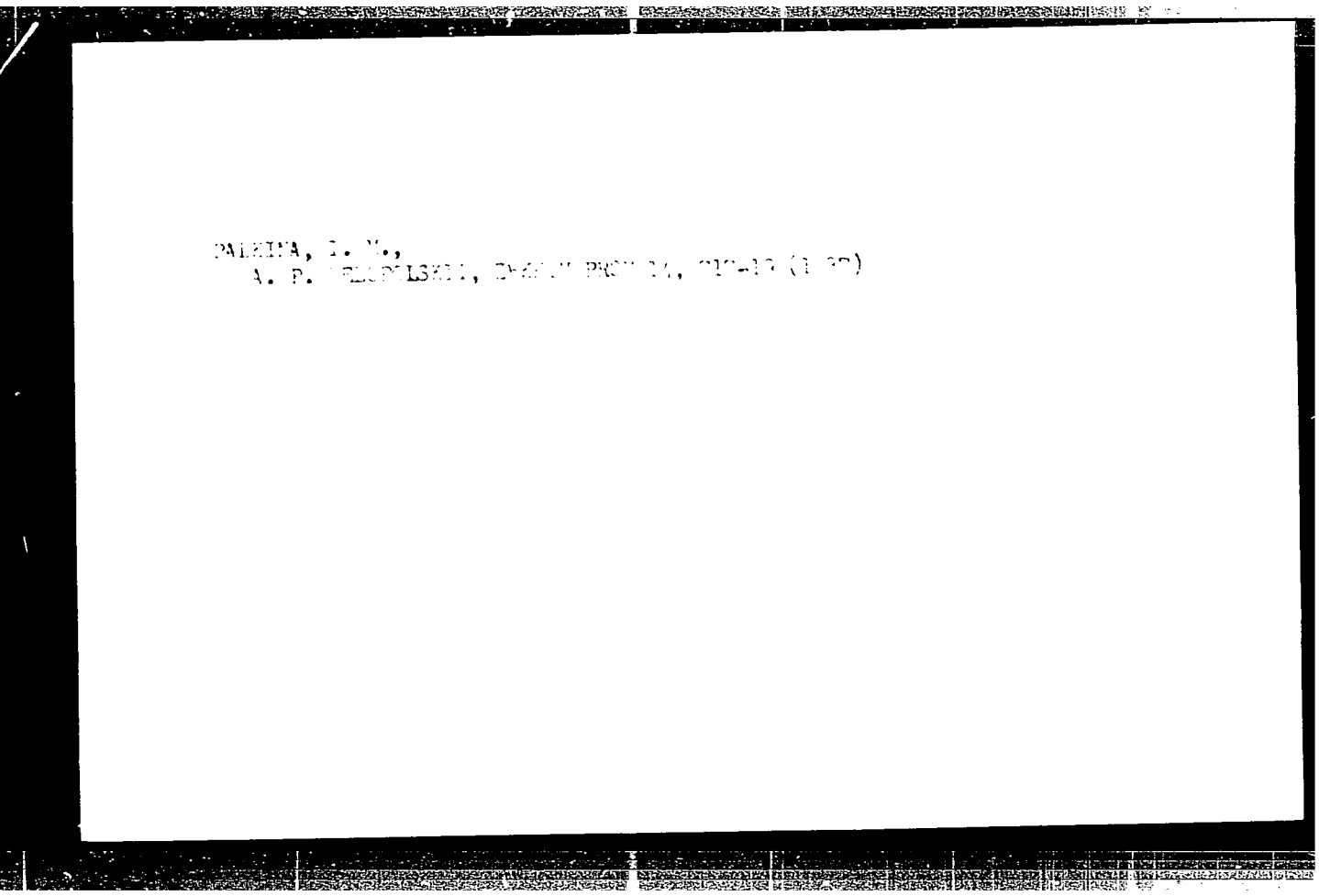
ZGRZHEBLOVSKIY, E.A., inzh. (Omskaya doroga); PALKIN, V.S., inzh. (Omskaya doroga)

Practical conclusions obtained from the testing of arresters. Elek. i tepl.tiaga 4 no.2:17-18 F '60. (MIRA 13:6)
(Electric apparatus and appliances--Testing)
(Lightning protection)

PALKIN, Yu. (Drogobych)

Book on Lenin's principle of material self-interest". Vop. ekon. no.1:134-137 Ja '64. (MIRA 17:3)





PALKINA, I. M.

"Partial Pressures of NH_3, CO_2 and H_2O over $(NH_4)_2SO_4Cl$ Solutions," A. P. Belopol'skiy S. Ya. Shpunt, I. M. Palkina, Works of the Sci Inst of Fert and Insectofung im Ya. V. Samoylov, 1940, No 144, pp 125-9, Khim Referat Zhur, IV, No 6 82-3 (1941) (SEE: Inst. Insect/Fung. in Ya. V. Samoylov)

SO: U-237/49, 8 April 1949

PALKINA, I. M.

PALKINA, I. M. -- "The Formation of Grammatical Concepts in Connection with the Development of Speech (In Students of the Fifth Class of Intermediate School)." Leningrad, 1955. (Dissertation for the Degree of Candidate in Pedagogical Sciences).

So.: Knizhnaya Litopis', No. 7, 1956.

SOKOLOV, I.Yu.; AYDIN'YAN, N.Kh.; BELEKHOVA, V.N.; BRODSKIY, A.A., starshiy nauchnyy sotrudnik; GLEBOVICH, T.A.; DALMATOVA, T.V.; KOMAROVA, A.I.; KOMAROVA, Z.V.; KOPYLOVA, M.M.; KUDRYAVTSEVA, M.M.; LIBINA, R.I.; LOGINOVA, L.G.; MARGOLIN, L.S.; MARKOVA, A.I.; MEDVEDEV, Yu.L.; MILLER, A.D.; MULIKOVSKAYA, Ye.P.; NECHAYEVA, A.A.; OZEROVA, N.V.; PALKINA, I.M.; PETROPAVLOVSKAYA, L.A.; POPOVA, T.P.; REZNIKOV, A.A.; SERGEYEV, Ye.A.; SETKINA, O.N.; STEPANOV, P.A.; SUVOROVA, Ye.G. [deceased]; SHERGINA, Yu.P.; PANOVA, A.I., red.izd-va; IVANOVA, A.G., tekhn.red.

[Methodological handbook on the determination of microcomponents in natural waters during prospecting for ore deposits] Metodicheskoe rukovodstvo po opredeleniiu mikrokomponentov v prirodnykh vodakh pri poiskakh rudnykh mestorozhdenii. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1961. 287 p.
(MIRA 14:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii (for Sokolov, Brodskiy, Glebovich, Ozerova, Kudryavtseva, Loginova, Markova, Medvedev, Belekhova, Palkina,

(Continued on next card)

SOKOLOV, I.Yu.---(continued) Card 2.
Popova, Petropavlovskaya). 2. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR (for Aydin'yan). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut metodiki i tekhniki razvedki (for Miller, Sergeyev, Margolin). 4. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut (for Mulikovskaya, Reznikov). 5. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya (for Komarova, A.).
(Prospecting--Geophysical methods)
(Water, Underground--Analysis)

PALKINA, K.K.

S/535/61/000/000/020/020
E021/E420

AUTHORS: Kuznetsov, V.G., Yeliseyev, A.A., Stepak, Z.S., Palkina, K.K., Skolova, M.A., and Dmitriyeva, A.V.

TITLE: Study of the phase diagram and the electrical conductivity of the phases of the Ni-S, Ni-Se and Co-S systems

SOURCE: Soveshchaniye po poluprovodnikovym materialam 4th. Voprosy metallurgii i fiziki poluprovodnikov. poluprovodnikovyye soyedineniya i tverdyye splavy. Trudy soveshchaniya Moscow Izd. vo AN SSSR 1961. Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova. Fiziko-tekhnicheskiy institut. 159-173.

TEXT: Information on the phase diagram and electrical conductivity of the phases of the systems Ni-S, Ni-Se and Co-S is important for the technology of extraction of nickel, cobalt, selenium and sulphur from their ores and also for the search for new semiconducting materials. The present investigation was therefore carried out. Detailed X-ray analysis, differential thermal analysis and measurements of density were carried out.

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Study of the phase diagram and the ...

Electrical conductivity in the range 20 to 440 °C was measured, and in general showed a steady fall as the temperature increased. The results showed that in solid solutions based on β-NiSe of β-type with a defect nickel arsenide structure and a content of selenium or sulphur greater than 51.6 atomic %, a superlattice is formed. This is explained by ordering of defects in the lattice in Ni or Co positions. The following structures were found to exist: Ni_4S_{3+x} - hexagonal with parameters at 650° of a = 5.43 ± 0.01kX, c = 12.02 ± 0.01kX and c/a 2.[illegible]; Ni_3S_8 - hexagonal with a = 12.10 ± 0.1kX, c = 11.20 ± 0.01kX, c/a = 0.932 in a lattice of six Ni_3S_8 groups; Ni_6Se_5 - hexagonal with a = 3.77 ± 0.01kX, c = 15.8[illegible] ± 0.02kX, c/a = 4.202; Ni_2Se_{20} - hexagonal with a = 7.95 ± 0.01kX, c = 9.76 ± 0.01kX, c/a = 1.227; β Ni_3Se_{20} - tetragonal with parameters at 650 °C of a = 7.60 ± 0.01kX, c = 6.22 ± 0.01kX, c/a = 0.818.

It was shown that NiS_2 has semiconducting properties. The phases β NiS, β NiSe and β CoS with a nickel arsenide structure and β CoS, β NiSe with a nickel-arsenide super-lattice, and also

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Study of the phase diagram and the ...

α NiS with a millerite-type structure, behave below 300 °C as semi-metals, but β' CoS with 55.22 at.% S and β' NiSe with 52.3 at.% Se have a tendency to semiconducting type of conductivity. The phases α Ni_3S_2, α Ni_3Se_2, Co_9S_8, $NiSe_2$ and mixtures of α Ni_3S_2 with Ni, α Ni_3Se_2 with Ni and Ni_6Se_5, Co_9S_8 with Co, have metallic conductivity. The c/a ratio is close to the ideal nickel-arsenide structure in the case of β NiS (c/a = 1.555) but the tendency to semiconducting properties is greater for β' CoS (c/a 1.534) and β' NiSe (c/a = 1.463). This is a deviation from the prediction by W.B. Pearson (Ref.20: Canadian J. of Physics, 1957, v.35, 8, 886) that phases with nickel-arsenide structur would have semiconducting type of electrical conductivity. Detailed information is given on the limits of homogeneity and phase structure of Ni-S, Ni-Se and Co-S systems and also the interatomic distances in sulphides and selenides of nickel and cobalt selenide.

There are 2 figures, 2 tables and 32 references: 7 Soviet-bloc and 25 non-Soviet-bloc.

Card 3/4

The four most recent English language references read as follows:

Ref. 7: T. Rosenqvist, J. Iron Steel Inst., 1954, v.176, 37.
Ref.16: M. Hansen. Constitution of Binary Alloys, 1958.
2nd publication.
Ref.20: W.B. Pearson, Canadian J. of Physics, 1957, v 35, 8, 666.
Ref.23: M.A. Peacock, Amer. Mineralog., 1947, v.32, 484.

KHIAPOVA, A.N., kand.khimicheskikh nauk, KOVALEVA, Ye.S., inzh.;
PALKINA, K.K., inzh.

Chemical reaction of iron with hematite in the solid state.
Teploenergetika 9 no.1 40-44 Ja '62. (MIRA 14:12)

1. Institut obshchey i neorganicheskoy khimii AN SSSR.
(Boilers--Incrustations)

PALKINA, K.K.

AID Nr. 994-1 20 June

PHASE DIAGRAMS AND STRUCTURES OF ALLOYS IN THE SYSTEMS $Bi_2Se_3 - Sb_2Te_3$ AND $Bi_2Te_3 - Sb_2Se_3$ (USSR)

Kuznetsov, V. G., and K. K. Palkina. Zhurnal neorganicheskoy khimii, v. 8, no. 5, May 1963, 1204-1210. S/078/63/008/005/012/021

The systems $Bi_2Se_3 - Sb_2Te_3$ and $Bi_2Te_3 - Sb_2Se_3$ have been studied by thermal and x-ray analysis at the Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR.

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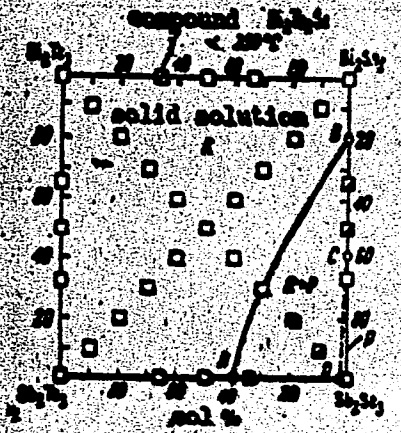
AID Nr. 994-1 20 June

PHASE DIAGRAMS AND STRUCTURES OF ALLOYS [Cont'd] S/078/63/008/005/012/021



The results of the study have made it possible to plot phase diagrams and to establish the structures of alloys in the above systems. The system Bi_2Se_3 — Sb_2Te_3 forms completely miscible substitutional solid solutions with a rhombohedral multiple-layer structure of the tetradymite type. The liquidus and solidus are smooth, with a minimum at 595°C, 85 mol% Sb_2Te_3. The system Bi_2Te_3 — Sb_2Se_3 forms partially miscible solid solutions. Solutions based on Bi_2Te_3 also have a multiple-layer structure of the tetradymite type and a one-phase region from 0 to 70 mol% Sb_2Se_3. Solutions based on Sb_2Se_3 have a rhombic nucleus, a chain structure of the Sb_2S_3 type, and a single-phase region from about 97 to 100 mol% Sb_2Se_3. The region from about 70 to 93 mol% Sb_2Se_3 contains a mixture of the rhombohedral and rhombic solid solutions and a eutectic at 600°C, 86 mol% Sb_2Se_3. The phase diagram of the system $Bi_2Se_3 + Sb_2Te_3 \rightleftarrows Bi_2Te_3 + Sb_2Se_3$ at 500°C is given in the illustration.

[BAO]

Card 2/2

L 12743-63 EWP(q)/EWT(m)/BDS AFFTC/ASD RDW/JD

ACCESSION NR: AP3006805 S/0078/63/008/009/2132/2135

AUTHOR: Ioffe, A. V.; Kuznetsov, V. G.; Palkina, K. K.

TITLE: Thermal conductivity and thermoelectric figure of merit (Z) of solid solutions in the bismuth selenide-antimony telluride and bismuth telluride-antimony selenide systems

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 9, 1963, 2132-2135

TOPIC TAGS: bismuth selenide, antimony telluride, bismuth telluride, antimony selenide, solid solution, alloy, semiconductor, semiconductor system, thermoelectric material, total thermal conductivity, electron, lattice, thermal conductivity, electrical conductivity, thermoelectric power, thermoelectric figure of merit, bismuth selenide antimony telluride system, bismuth telluride antimony selenide system

ABSTRACT: Total thermal conductivity (κ), electrical conductivity (σ), and thermoelectric power (α) have been measured at room temperature for the entire composition range of solid solutions in

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