Reel # 250

Korshunov, B.G.

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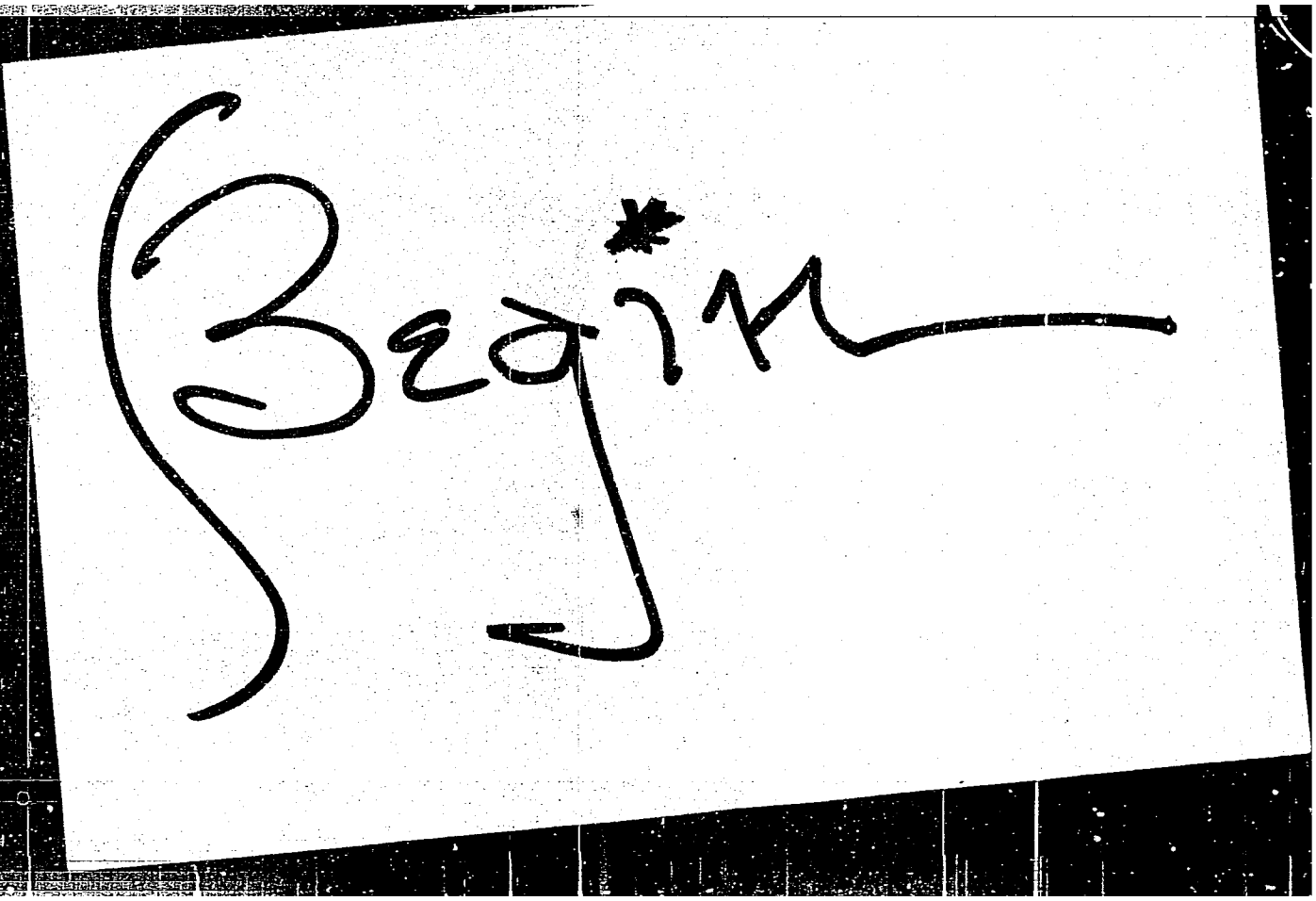

KORSHUNOV, B.G.; DROBOT, D.V.; BUKHTIYAROV, V.V.; SHEVTSOVA, Z.N.

Interaction of samarium (III)chloride with the chlorides of sodium, potassium, rubidium, and cesium. Zhur. neorg. khim. 9 no.6:1427-1430 Je '63 (MIRA 17:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

ACCESSION NR: AP4009357 S/0078/64/009/001/0222/0223

AUTHORS: Korshunov, B. G.; Drobot, D. V.

TITLE: Fusibility curves for the YCl_3-NaCl and YCl_3-KCl systems.

SOURCE: Zhurnal neorganicheskoy khimii,.v. 9, no. 1, 1964, 222-223

TOPIC TAGS: yttrium chloride containing system, yttrium chloride-sodium chloride, yttrium chloride-potassium chloride, rare earth recovery, fusibility curve, sodium yttrium chlorine, Na_3YCl_6, KY_3Cl_{10}, K_3YCl_6, polymorphic transition, eutectics

ABSTRACT: The subject systems were studied for the first time to explain the nature of the reaction of the components on crystallizing from melts obtained by treating rare earth raw materials with chlorides. Atmospheric moisture was excluded from the systems. From the fusibility curves it is seen that in the YCl_3-NaCl system one chemical compound Na_3YCl_6 is formed (this forms a eutectic with YCl_3, melting 360°). In the KCl system, two compounds are formed: KY_3Cl_{10}, and K_3YCl_6. The latter undergoes polymorphic transition at 340°; forms eutectic with KCl melting at 675°, and a

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ACCESSION NR: AP4009357

eutectic with KY_3Cl_{10} melting at 430°. Orig. art. has: 2 Tables and 2 Figures.

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

SUBMITTED: 18Apr63

DATE ACQ: 07Feb64 ENCL: 01

SUB CODE: CH, PH NR REF SOV: 000 OTHER: 001

Card 2/2

SAFONOV, V.V.; KORSHUNOV, B.G.; SHEVTSOVA, Z.N.; BAKUM, S.I.

Interaction of tantalum trichloride with fused alkali metal chlorides. Zhur. neorg. khim. 9 no.7:1687-1691 Jl '64. (MIRA 17:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

KORSHUNOV, B.G.; ROKHLENKO, D.A.

Chlorination of metal oxides in fused salts. Zhur. prikl. khim. 37 no.9:1941-1946 S '64. (MIRA 17:10)

L 36700-65 EWP(j)/EWT(m)/EWP(b)/T/EWP(t) Pc-4 IJP(c) RM/JD/JG

ACCESSION NR: AP5005017 S/0078/65/010/002/0562/0564

AUTHOR: Drobot, D. V.; Anikina, G. P.; Durinina, L. V.; Korshunov, B. G.

TITLE: Phase diagram of the YCl_3-CaCl system

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 2, 1965, 562-564

TOPIC TAGS: yttrium chloride, cesium chloride, phase diagram, cesium yttrium sub 3, chlorine sub 10, hexachloro yttrium complex

ABSTRACT: A phase diagram was constructed for the YCl_3-CsCl system (fig. 1). Two compounds were formed: CsY_3Cl_{10}, melting congruently at 640C, with polymorphic transition at 406C, d_4^{25} = 3.005 ± 0.001 gm/cm^3, and Cs_3YCl_6, melting 870C, with polymorphic transition at 412C, d_4^{25} = 3.395 ± 0.001 gm/cm^3. Data indicated that yttrium formed the YCl_6^{3-} complex in the melt. Orig. art. has: 1 figure and 1 table

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

Card 1/3

L 44318-65 EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EWP(t)/EWP(b) Pr-4/Pt-7/Pu-4
IJP(c) JD/JG

ACCESSION NR: AP5008483 S/0078/65/010/003/0669/0671

AUTHOR: Safonov, V. V.; Korshunov, B. G.; Shevtsova, Z. N.; Shadrova, L. G. 39 38 15

TITLE: Reaction of tantalum tetrachloride with sodium and potassium chlorides 27 27 27 27

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 3, 1965, 669-671

TOPIC TAGS: potassium compound, tantalum compound, tantalum tetrachloride, sodium chloride, potassium chloride, high purity metal production, niobium tetrachloride, eutectic, complex ion, melt 18 27

ABSTRACT: The reaction of tantalum tetrachloride with sodium and potassium chlorides in melts has been studied because the production of high purity metals by subhalide methods is assuming increasing importance. A thermal analysis of the systems has been made and fusibility diagrams constructed. The $TaCl_4$-NaCl system is of the eutectic type and the eutectic contains 55 mol.% NaCl and melts at 270C. The components of the $TaCl_4$-KCl system form a K_2TaCl_6 compound that melts at 732C. The eutectic formed by K_2TaCl_6 and KCl melts at 590C and contains 75 mol.% KCl, while the eutectic formed by K_2TaCl_6 and $TaCl_4$ melts at 215C and contains about 51 mol.% $TaCl_4$. Unlike $TaCl_4$, the K_2TaCl_6 compound is optically isotropic and has

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L 44318-65

ACCESSION NR: AP5008483

a tendency to decompose in the atmosphere. Its refractive index exceeds 1.''89, and its density is 3.017 g/cm^3, as compared with 2.539 g/cm^3 for the similarly obtained niobium compound K_2NbCl_6. The $NaCl_4$ experimental crystallization curve of the $TaCl_4$-NaCl system is in good agreement with the estimated crystallization curve in the range from 0 to 20 mol.% $TaCl_4$, suggesting the possible presence of tantalum in the form of $[Ta_2Cl_{10}]^{2-}$ in the melt. The KCl experimental crystallization curve is also in good agreement with the estimated curve, and it is assumed that the melt contains tantalum in the form of the complex ion $[TaCl_6]^{2-}$. Orig. art. has: 4 figures.

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

SUBMITTED: 10Jun64 ENCL: 00 SUB CODE: IC

NO REF SOV: 004 OTHER: 006

Card 2/2

L 3187-66 EWT(m)/EPF(c)/EPF(n)-2/EWP(t)/EWP(b) IJP(c) JD/JG

ACCESSION NR: AP5008484 S/0078/65/010/003/0672/0675

B/ 30 B

AUTHOR: Sal'nov, V.V.; Korshunov, B.G.

TITLE: The tantalous chloride - sodium chloride - potassium chloride system

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 3, 1965, 672-675 27

TOPIC TAGS: alkali metal chloride, potassium chloride, sodium chloride, tantalum chloride, tantalous chloride, tantalum subchloride, melt, fusibility diagram, tantalum production, tantalum

ABSTRACT: This study was carried out for the purpose of obtaining data on the electrolysis of tantalum subchlorides in alkali-metal chloride melt, inasmuch as it is a promising method for the production of high-purity tantalum. A thermographic analysis shows that: 1) the components in the NaCl-KCl system form solid solutions with a minimum at 50 mol.% NaCl and 658 C; 2) the $TaCl_3$- NaCl system is a eutectic containing 55 mol.% NaCl and melting at 220 C; 3) the compound K_2TaCl_5 is formed in the $TaCl_3$-KCl system; 4) the eutectic formed by K_2TaCl_5 and KCl contains 68 mol.% KCl and melts at 520 C; 5) the eutectic formed by K_2TaCl_5 and $TaCl_3$ contains about 50 mol.% KCl and melts at 230 C; and 6) the K_2TaCl_5 compound undergoes poly-

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L 3187-66
ACCESSION NR: AP5008484

morphic transformation at 263 C. Data on five internal sections in the $TaCl_3$-NaCl-KCl ternary system are incorporated in the fusibility diagram (Fig. 1 of the Enclosure). The experimental results show that crystallization fields (solid solution of NaCl and KCl, K_2TaCl_5, and $TaCl_3$) are present on the liquidus surface; that the E_1 point is a eutectic containing 27.7 mol.% $TaCl_3$, 10 mol.% NaCl, and 62.3 mol.% KCl, melting at 516 C, and corresponding to a four-phase equilibrium in the K_2TaCl_5-NaCl-KCl system; that the K_2TaCl_5 compound is of low thermodynamic stability, inasmuch as its crystallization field occupies little space in the phase diagram; and that pulverized samples differ in color with phase composition so that $TaCl_3$-NaCl-K_2TaCl_5 mixtures are dark green, and KCl-NaCl-K_2TaCl_5 mixtures are blue. Orig. art. has: 6 figures.

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

SUBMITTED: 10Jun64 ENCL: 01 SUB CODE: IC, SS

NO REF SOV: 006 OTHER: 009

Card 2/2

L 3187-66

ACCESSION NR: AP5008484 ENCLOSURE: 01

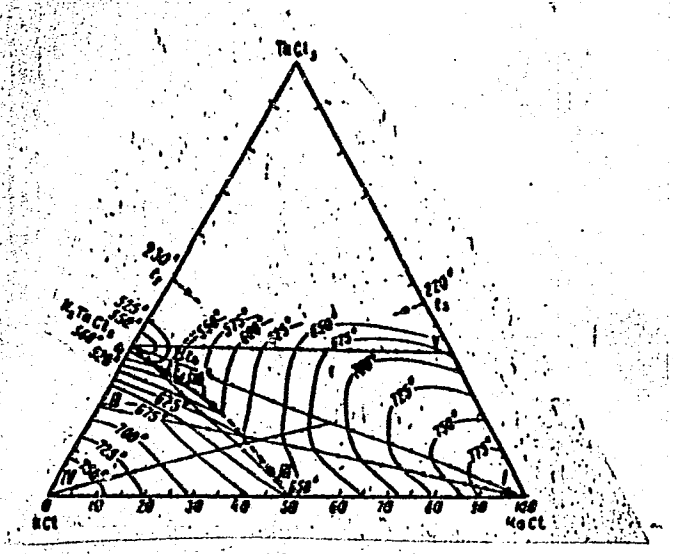

Fig. 1. Fusibility curve of the $TaCl_5$-NaCl-KCl system.

Card 3/3

L 52975-65 EWI(m)/EPF(c)/EPF(n)-2/EWP(t)/EWP(b) Pr-4/Pu-4 IJP(c) JD/JG

ACCESSION NR: AP5009950 UR/0078/65/010/004/0939/0942
546.652'131+546.664

25
24
B

AUTHOR: Korshunov, B. G.; Drobot, D. V.

TITLE: Reaction of gadolinium and dysprosium chlorides with sodium and potassium chlorides in melts

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 4, 1965, 939-942

TOPIC TAGS: gadolinium chloride, dysprosium chloride, sodium chloride, potassium chloride, phase diagram

ABSTRACT: The purpose of this study was to investigate the reactions of gadolinium and dysprosium chlorides with sodium and potassium chlorides in melts, which would facilitate the chloride treatment of the complex rare earth raw materials, and to establish the characteristics of complex formation in such systems. The interactions of the components in $GdCl_3$-MeCl, $DyCl_3$-MeCl (where Me = Na, K) were investigated by thermal analysis. To avoid decomposition of chlorides in the presence of oxygen and to eliminate hydrolysis by atmospheric moisture the melting of salt mixtures and measurements were done in sealed quartz ampules. The samples ranged

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L 52975-65

ACCESSION NR: AP5009950

from 1.5 to 3 g. The rate of heating or cooling was 4-10 deg/min depending on the temperature interval. Four phase diagrams were constructed (shown in figs. 1-4 of the Enclosure). One incongruently melting compound of Na_3GdCl_6 composition is formed in the $GdCl_3$-NaCl system. An incongruently melting compound, K_2GdCl_5, and two congruently melting compounds, KGd_3Cl_{10} and K_3GdCl_6, are formed in the $GdCl_3$--KCl system. Two incongruently melting compounds, $NaDy_3Cl_{10}$ and Na_2DyCl_6, are formed in the $DyCl_3$-NaCl system. Congruently melting compounds of similar composition are formed in the $DyCl_3$-KCl system. The densities of all compounds of their low temperature forms were determined pycnometrically. Liquidus curves were calculated for crystallization from the melt. For all the investigated systems $[RCl_6]^{-3}$ complex, where R is a rare earth element, is the most probable. Orig. art. has: 4 figures and 1 table.

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

SUBMITTED: 19Nov63 ENCL: 02 SUB CODE: IC, GC

NO REF SOV: 007 OTHER: 002

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L 52975-65

ACCESSION NR: AP5009950 ENCLOSURE: 01

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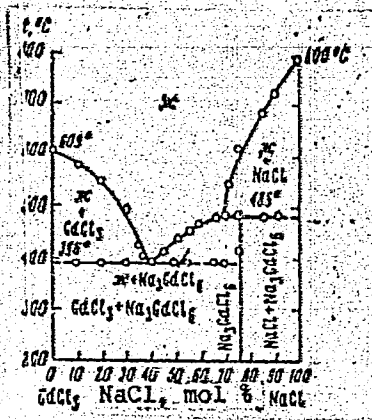

Fig. 1. Phase diagram of the $GdCl_3$--NaCl system.

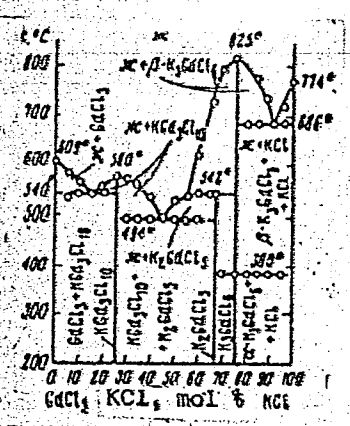

Fig. 2. Phase diagram of the $GdCl_3$-KCl system.

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L 52975-65

ACCESSION NR: AP5009950 ENCLOSURE: 02

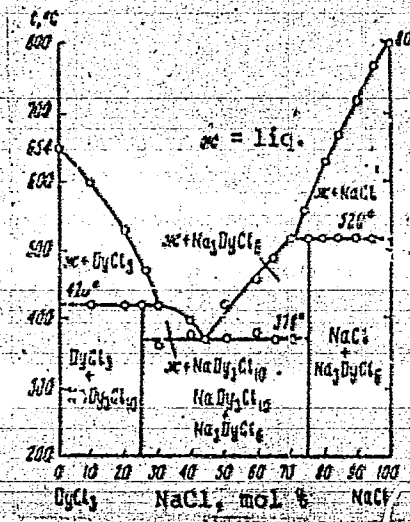

Fig. 3. Phase diagram of the $DyCl_3$-NaCl system.

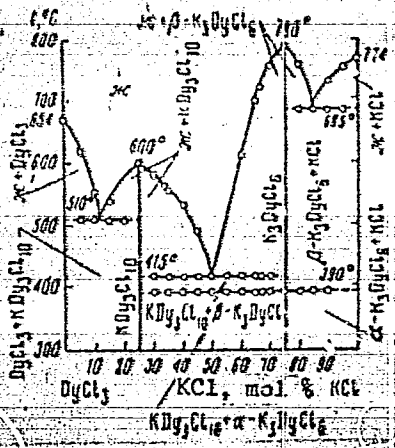

Fig. 4. Phase diagram of the $DyCl_3$-KCl system.

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KORSHUNOV, B.G.; DROBOT, D.V.; PETROV, K.I.; BUKHTIYAROV, V.V.; RUBTSOV, M.V.

System $SmCl_3$ - NaCl - KCl. Zhur. neorg. khim. 10 no.7: 1675-1680 Jl '65. (MIRA 18:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

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

System YCl_3 - NaCl - KCl. Zhur.neorg.khim. 10 no.8:1901-1905 Ag '65. (MIRA 19:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova. Submitted July 1, 1963.

L 10440-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG

ACC NR: AP6000289 SOURCE CODE: UR/0078/65/010/009/2120/2123

AUTHOR: Korshunov, B.G.; Drobot, D.V.; Durinina, L.V.

ORG: Moscow Institute of Fine Chemical Technology im. M.V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Reaction of lanthanum chloride with samarium (III) chloride and yttrium chloride

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 9, 1965, 2120-2123

TOPIC TAGS: lanthanum compound, samarium compound, yttrium compound, thermal analysis, solid solution, crystal structure, chloride

ABSTRACT: Thermal analysis was used to study the interaction in the $LaCl_3$-$SmCl_3$ and $LaCl_3$-YCl_3 systems. In the $LaCl_3$-$SmCl_3$ system, the components form a continuous series of solid solutions (Rozeboom type II). The maximum on the liquidus curve corresponds to a content of 88 mole % $LaCl_3$ and a temperature of 860C. The $LaCl_3$-YCl_3 system is of eutectic type. The eutectic point corresponds to 25 mole % $LaCl_3$ and 650C. It is shown that the solidus line of the $LaCl_3$-$SmCl_3$ system can be obtained by calculation. The points of the calculated and experimental maxima are in satisfactory mutual agreement. The eutectic system $LaCl_3$-YCl_3 was

Card 1/2 UDC: 541.123+546.654'131+546.659'131+546.641'131

L 10440-66

ACC NR: AP6000289

calculated, and the experimental and calculated curves also coincided satisfactorily. The factor determining the difference in the types of fusibility diagrams of the $LaCl_3$-$SmCl_3$ and $LaCl_3$-YCl systems appears to be the crystal structure of the initial rare earth trichlorides. Orig. art. has: 2 figures, 3 tables, and 2 formulas.

SUB CODE: 07 / SUBM DATE: 06Oct64 / ORIG REF: 002 / OTH REF: 008

Card 2/2

KORSHUNOV, B.G., kand. tekhn. nauk; STEFANYUK, S.L., kand. khim. nauk

Chlorine metallurgy. Priroda 54 no.6:63-66 Je '65. (MIRA 18:6)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova (for Korshunov). 2. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR, Moskva (for Stefanyuk).

DROBOT, D.V.; KORSHUNOV, B.G.; DURININA, L.V.

Equilibrium of reactions between lanthanum and praseodymium chlorides and oxygen. Izv. AN SSSR. Neorg. mat. 1 no.12: 2189-2196 D '65. (MIRA 18:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova. Submitted June 7, 1965.

L 21184-65 EWW(m)/EPF(n)-2/EWG(m)/T/EWP(t) IJP(c) DS/JD/JG/GS

ACC NR: AT6009945 SOURCE CODE: UR/0000/65/000/000/0312/0313

AUTHOR: Korshunov, B. G.; Nikhamkin, A. A. 32 B+1

ORG: Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Preparation of fused chlorides 27 containing rare earth elements 27

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Issledovaniya v oblasti khimii i tekhnologii mineral'nykh soley i okislov (Studies in the field of chemistry and technology of mineral salts and oxides). Moscow, Izd-vo Nauka, 1965, 312-313

TOPIC TAGS: rare earth, rare earth compound, rare earth chloride, double chloride hydrate, dehydration, fused salt electrolyte

ABSTRACT: A process has been developed for the direct preparation of the fused chlorides K_3MCl_6 where M is a rare earth element, for the electrochemical winning of individual rare earth elements. Prior art included an illogical and technically difficult step—preparation of individual anhydrous rare earth element chloride. The newly developed process consisted of dehydrating double chloride $3KCl \cdot MCl_3 \cdot nH_2O$ which was obtained by dissolving a rare earth or rare earth hydroxide in HCl, and adding KCl in the amount required to form K_3MCl_6. Dehydrated chloride was melted under conditions excluding oxygen access. The fused salt contained 52.5--55.5 wt%

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L 21184-66
ACC NR: AT6009945

of the rare earth element chloride and, in most cases, no oxychlorides or oxides of the rare earth elements. Basically the same process may be used for regeneration of the spent electrolyte which contains only a small percentage of the rare earth element chloride. [JK]

SUB CODE: 07/ SUBM DATE: 15Jun64/ ORIG REF: 002/ OTH REF: 001/ ATD PRESS: 4222

Card 2/2 BK

L 42158-66 EWP(j)/EWT(m)/EWP(t)/ETI IJP(c) RM WW/JD/JG/GD

ACC NR: AT6022979 (A) SOURCE CODE: UR/0000/65/000/000/0048/0054

57
B+1

AUTHOR: Dyakov, I. V.; Korshunov, B. G.; Shevtsova, Z. M.

ORG: Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Some aspects of complex formation in melts containing rare earth and alkali metal chlorides

SOURCE: Vsesoyuznoye soveshchaniye po fizicheskoy khimii rasplavlennykh solegey. 2d; Kiev, 1963. Fizicheskaya khimiya rasplavlennykh soley (Physical chemistry of fused salts); trudy soveshchaniya. Moscow, Izd-vo Metallurgiya, 1965, 48-54

TOPIC TAGS: rare earth element, alkali halide, chloride, phase diagram, eutectic point, alkali metal

ABSTRACT: An attempt was made to identify the relationships underlying the melting point diagrams of binary systems formed by rare earth and alkali metal chlorides in relation to the decrease in ionic radius (from lanthanum to lutetium) and to the change in ionic radius in the series of alkali metals. The following binary systems were investigated: $LaCl_3$-NaCl, $LaCl_3$-KCl, $SmCl_3$-NaCl, $SmCl_3$-KCl, $SmCl_3$-CsCl, YCl_3-NaCl, YCl_3-KCl, $GdCl_3$-NaCl, $GdCl_3$-KCl, $DyCl_3$-NaCl, $DyCl_3$-KCl, $ErCl_3$-NaCl, and $ErCl_3$-KCl. It was found that the decrease in the ionic radius of the rare earth element does not affect complex formation monotonically in the interaction with alkali metal chlorides.

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Card 2/2

L 06662-67 EWT(m)/EWP(t)/ETI IJP(c) MM/JD/JG

ACC NR: AP6019050 (A) SOURCE CODE: UR/0078/66/011/002/0411/0414

AUTHOR: Korshunov, B. G.; Drobot, D. V.; Galchenko, I. Ye.; Shevtsova, Z. N.

ORG: Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Interaction of fused holmium and erbium chlorides with fused potassium chloride

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 2, 1966, 411-414

TOPIC TAGS: thermal analysis, holmium compound, erbium compound, potassium chloride

ABSTRACT: A thermal analysis has been conducted of the $HoCl_3$-KCl and $ErCl_3$-KCl systems, which had not been investigated before. The chemical analysis of chlorides used was 61.14% Ho+39.19% Cl for $HoCl_3$ and 60.95% Er+39.12% Cl for $ErCl_3$, against calculated values of 60.85% Ho+39.15% Cl and 61.03% Er+38.97%Cl, respectively. The time-temperature curves were recorded with the aid of a Kurnakov pyrometer. The salts were fused in quartz-glass Stepanov vessels. The liquidus curves of the systems were calculated as proposed by P. Ehrlich, G. Kaupa, and K. Blankenstein (Z. anorg. allgem. Chem., 299, 213, 1959), and R. V. Chernov (Ukr. khim. zhurn. 27, 34, 1961). The results of the thermal analysis are given in Tables 1 and 2, and Figures 1 a and b. Compounds which were formed in the given systems were identified by X-ray phase analysis in a

Card 1/6 UDC: 546.665/.666'131-386

L 08662-67

ACC NR: AP6019050

Mole% $HoCl_3$	Liquidus, C	Primary phase	Temperature, C: Eutectic $HoCl_3$ + KHo_2Cl_7	Eutectic KHo_2Cl_7 + K_3HoCl_6	Eutectic K_3HoCl_6 + KCl	Polymorphous transformation of K_3HoCl_6
100,0	718	$HoCl_3$	—	—	—	—
95,0	697	$HoCl_3$	560	—	—	—
90,0	667	$HoCl_3$	555	—	—	—
85,0	636	$HoCl_3$	552	—	—	—
80,0	560	$HoCl_3$ + KHo_2Cl_7	560	—	—	—
75,0	567	KHo_2Cl_7	560	—	—	—
70,0	575	KHo_2Cl_7	—	—	—	—
66,66	587	KHo_2Cl_7	—	454	—	—
65,0	569	KHo_2Cl_7	—	454	—	395
60,0	550	KHo_2Cl_7	—	455	—	397
55,0	526	KHo_2Cl_7	—	453	—	403
50,0	—	KHo_2Cl_7	—	460	—	395
45,0	454	KHo_2Cl_7 + K_3HoCl_6	—	454	—	395
40,0	628	KHo_2Cl_7 + K_3HoCl_6	—	457	—	400
35,0	740	KHo_2Cl_7 + K_3HoCl_6	—	453	—	403
33,33	760	KHo_2Cl_7 + K_3HoCl_6	—	456	—	400
30,0	800	KHo_2Cl_7 + K_3HoCl_6	—	—	—	400
25,0	816	KHo_2Cl_7 + K_3HoCl_6	—	—	662	404
20,0	794	KHo_2Cl_7 + K_3HoCl_6	—	—	664	398
15,0	725	KHo_2Cl_7 + K_3HoCl_6	—	—	664	400
10,0	664	K_3HoCl_6 + KCl	—	—	660	400
5,0	750	KCl				

Table 1. Results of the thermal analysis of the $HoCl_3$-KCl system

Card 2/6

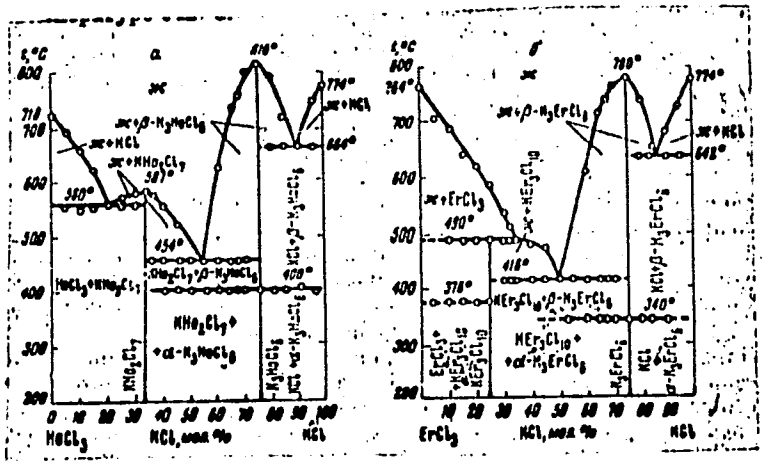
Mole% $ErCl_3$	Liquidus, C	Primary phase	Temperature, C: Peritectic	Eutectic KEr_3Cl_{10} + K_3ErCl_6	Eutectic K_3ErCl_6 + KCl	Polymorphous transformation of K_3ErCl_6
100,0	764	$ErCl_3$	—	—	—	—
95,0	702	$ErCl_3$	—	—	—	—
90,0	690	$ErCl_3$	480	—	—	—
85,0	647	$ErCl_3$	492	—	—	—
80,0	621	$ErCl_3$	490	—	—	—
75,0	575	$ErCl_3$	486	—	—	—
70,0	530	$ErCl_3$	490	416	—	—
66,66	514	$ErCl_3$	—	416	—	—
65,0	490	KEr_3Cl_{10}	—	414	—	—
60,0	485	KEr_3Cl_{10}	—	416	—	—
55,0	472	KEr_3Cl_{10}	—	416	—	—
50,0	416	KEr_3Cl_{10} + K_3ErCl_6	—	416	—	—
45,0	—	K_3ErCl_6	—	416	—	340
40,0	606	K_3ErCl_6	—	416	—	340
35,0	717	K_3ErCl_6	—	416	—	340
33,33	743	K_3ErCl_6	—	416	—	340
30,0	762	K_3ErCl_6	—	416	—	343
25,0	780	K_3ErCl_6	—	—	—	343
20,0	740	K_3ErCl_6	—	—	642	337
15,0	642	K_3ErCl_6 + KCl	—	—	642	340
10,0	683	KCl	—	—	640	—
5,0	728	KCl	—	—	642	—
0,0	774	KCl	—	—	—	—

Table 2. Results of the thermal analysis of $ErCl_3$-KCl system

Card 3/6

L 08662-67

ACC NR: AP6019050



ж = Liquidus
б = b
Мол. = mole

Figure 1. Phase diagrams a - $HoCl_3$; b - $ErCl_3$-KCl

Card 4/6

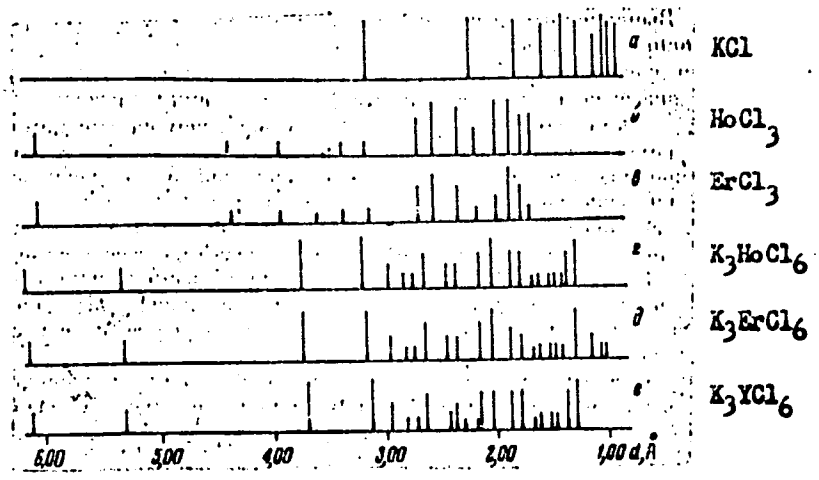


Figure 2. Roentgenogram of K_3RCl_6 compounds and their chlorides

L 08662-67

ACC NR: AP6019050

Table 3: Relative densities of compounds in RCl_3-KCl systems (R = Ho, Er)

System	Compound	Color	d_4^{25}
$HoCl_3$-KCl	KHo_2Cl_7	light yellow	3.614
	K_3HoCl_6	white with yellow hue	2.749
$ErCl_3$-KCl	KEr_3Cl_{10}	reddish-violet	3.677
	K_3ErCl_6	reddish-violet	2.768

R.K.D. 57.3-mm diameter camera with nickel filter and copper radiation. The results of the analysis confirmed the formation of new phases in the RCl_3-KCl systems (R = Ho,Er). Roentgenograms for K_3RCl_6 (R = Ho, Er, Y) compounds in Figure 2 give evidence of their isomorphism. The authors attribute the isostructural properties of these compounds to the isomorphism of the original chlorides and yttrium. The effects observed in the $ErCl_3$-KCl system at 376C could not be explained. Densities of all low-temperature modifications (Table 3) were determined using CCl_4 with $d_4^{25} = 1.5828$ g/cm^3. Orig. art. has: 2 fig.and 4 tables.

SUB CODE: 07/ SUBM DATE: 05Feb65/ ORIG REF: 004/ OTH REF: 002

Card 6/6

PROCESSES AND PROPERTIES INDEX

CA

Reducing oxygen losses in its production. B. S. Korshunov. *Avtogennoe Delo* 1946, No. 11/12, 24-5.—From 10 to 20% of O is lost in the course of its production. The losses occur when the compressors are stopped when liquid O is transferred from the condenser, in filling cylinders, and through various leaks in the app. Means are suggested for reducing these losses. M. Hosch

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

KORSHUNOV, B.S., i ISHKIN, I.P.

"Handbook of Instructions on the Creation of Norms for Electric Power Consumption in the Production of Oxygen" (Rukovodyashchiye ukazaniya po normirovaniyu udelnykh raskhodov elektroenergii na proizvodstve kisloroda), Ministry of Electric Stations USSR, Gosenergonadzor. Gosenergoizdat, 1 7 pp., 1947

KORSHUNOV, P. S.

Abrazivnain zatochka i dovodka tverdo-splavnogo instrumenta. Moskva, Mashgiz, 1950. 95 p. illus.

Abrasive sharpening and finishing of a hard-alloy tool.

DLC: TJ1280. K7

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

KORSHUNOV, B. S. and KARATYGIN, A. M.

Khimiko-mekhanicheskii sposob obrabotki tverdykh splavov. (vestn. Mash., 1950, No. 12, p. 30-34)

DLC: TN4.V4

(Chemicomechanical treatment of hard alloys.)

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

1. KORSHUNOV, B. S.

2. USSR (600)

7. Results of the work of Sharpening and Finishing a Tool Equipped with Hard Alloy, Instrument High-Speed Cutting of Metals - Bit Used, 1951

9. Compilation of Information of the USSR Machine and Machine Tools Industry Contained in Soviet Publications. [redacted]

1. KARATYGIN, A. M., KORSHUNOV, B. S.

2. USSR (600)

4. Metal Cutting

7. Sharpening and polishing cutters coated with a mineral-ceramic film. Vest mash No 11 1952.

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

KORSHUNOV, B. S., PETROSYAN, L. K.

Grinding and Polishing

Grinding hard-alloyed instruments with grinding wheels made of black silicon carbide. Stan. i instr., 23, no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952, Uncl.

2

KARATYGIN, A. M. Docent, KORSHUNOV, B. S.

GRINDING AND POLISHING

Gringing a cast cutting tool. Vest. mash. 32 no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952, Uncl.

KARATYGIN, A.M., kandidat tekhnicheskikh nauk; KORSHUNOV, B.S., kandidat tekhnicheskikh nauk.

Lapping of hard-alloy tools with the B_1 new abrasive. Vest.mash. 33 no.11: 80 N '53. (MLRA 6:12)
(Grinding and polishing)

KORSHUNOV, B. S.

KARATYGIN, A.M., kandidat tekhnicheskikh nauk, dotsent; KORSHUNOV, B.S., kandidat tekhnicheskikh nauk; FRUMIN, Yu.L., inzhener, retsenzent; ZUSMANOVSKIY, M.K., inzhener, retsenzent; ZATULOVSKIY, D.I., kandidat tekhnicheskikh nauk, redaktor.

[Sharpening and lapping cutting tools] Zatochka i dovodka rezhushchego instrumenta. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroitel'noi i sudostroitel'noi literatury, 1954. 206 p.(MLRA 7:7)
(Cutting tools)

KORSHUNOV, B. S.
USSR/Miscellaneous - Industrial Processes

Card 1/1

Author : Korshunov, B. S.

Title : Profiling, grinding and lapping of a shaped hard-alloy tool

Periodical : Stan. i Instr., No. 5, 20 - 22, May 1954

Abstract : Five basic requirements for the profiling, grinding and lapping of shaped hard-alloy tools. The abrasive profiling method is considered best, but very expensive and the least productive. The anode-mechanical method has some economical advantages but warrants no profile accuracy. The author recommends a combination of both technological methods and offers proof of suitability of such a combination. Tables, drawings.

Institution : ...

Submitted : ...

USSR/Miscellaneous - Cutting tools

Card : 1/1

Authors : Korshunov, B. S., and Petrosyan, L. N.

Title : Grinding of a hard-alloy

Periodical : Stan. i Instr., Ed. 6, 23 - 25, June 1954

Abstract : Investigations were conducted to determine methods of grinding and sharpening hard-alloy cutting tools (made of T15K6, T30K4, and T60K6 steel) with composition grinding wheels. Tables and graphs specifying individual grinding operations, and listing different work speeds, typed of abrasive grains, and feeds, are presented.

Institution : ...

Submitted : ...

KORSHUNOV, B.S., kandidat tekhnicheskikh nauk.

New equipment for sharpening the knives of hay movers. Sel'khoz-mashina no.9:30-33 S '54. (MLRA 7:9)
(Mowing machines)

KORSHUNOV, B.S.

Profiling, grinding and lapping of a hard-alloy forming tool.
Stan. i instr. 25 no.5:20-22 My '54. (MLRA 7:6)
(Machine tools)

KORSHUNOV, B.S., kandidat tekhnicheskikh nauk

The quality of surfaces finished by various methods. [Izd.]
LONITOMASH no.34:195-204 '54. (MLRA 8:10)
(Surfaces (Technology))

KORSHUNOV, B.S.

KUDRYAVTSEV, Ivan Vasil'yevich, doktor tekhnicheskikh nauk; BOLTUNOV, Aleksandr Konstantinovich, inzhener; ZAIKIN, Mikhail Pavlovich; UDAL'TSOV, A.N., glavnyy redaktor; MALOV, kandidat tekhnicheskikh nauk, redaktor; KORSHUNOV, B.S., kandidat tekhnicheskikh nauk, redaktor; GRISHIN, V.M., inzhener, redaktor

[Strengthening fillets of large shafts by surface peening. New construction of ring electrodes of electromachining tools. Vibration equipment for electric spark machining for hardening and metal coating] Uprochnenie galtelei krupnykh valov poverkhnostnym naklepom. Novaia konstruktsiia kol'tsevogo elektroda elektroerozionnogo stanka. Vibratsionnaia ustanovka dlia elektroerozionnogo uprochneniia i pokrytiia metallov. Moskva, 1956. 11 p. (Peredovoi proizvodstvenno-tekhnicheskii opyt. Ser.8, Mekhanicheskoe uprochnenie detalei i metody elektricheskoi obrabotki metallov. No.T-56-252/6) (MIRA 10:9)

1. Moscow. Institut tekhniko-ekonomicheskoy informatsii
(Metal cutting, Electric)

KORSHUNOV, Rostislav Sergeyevich, kandidat tekhnicheskikh nauk; LYUBINSKAYA, A.G., redaktor; ANTONYUK, P.D., tekhnicheskiy redaktor

[Grinding and finishing of cutting tools] Zatochka i dovodka reshushchego instrumenta. Moskva, Vses. uchebno-pedagog. izd-vo Trudrezervizdat, 1956. 126 p. (MIRA 10:11)
(Cutting tools)

KORSHUNOV, B.S., kandidat tekhnicheskikh nauk.

Grinding hard alloys by current-conducting abrasives. Vest. mash. 36 no.6:39-40 Je '56. (MLRA 9:10)

(Grinding and polishing)

599

AUTHOR: Korshunov, B.S.

TITLE: The Effect of the Grit Size and Hardness of Grinding Wheels on the Surface Finish and Crack Formation in the Grinding of Carbides. (Vliyaniye Zernistosti I Tverdosti Shlifoval'nykh Krugov Na Chistotu Poverkhnosti I Treshchinoobrazovaniye Pri Obrabotke Tverdykh Splavov).

PERIODICAL: "Stanki i Instrument" (Machine Tools and Cutting Tools, No.3, 1957, pp.33-34. (U.S.S.R.).

ABSTRACT: The surface roughness in microns is plotted against the grinding speed, the hardness of the abrasive and its grit number. A numerical table gives the depth of cracks formed. The surface finish is determined in the first place by the abrasive grit. The hardness of the abrasive mainly determines the formation of cracks. Soft wheels should be used for ordinary work and hard wheels for profile work.

There are 4 graphs and 2 tables.

Card 1/1

KORSHUNOV, B.S.

Modern techniques in lapping cutting tools equipped with hard alloys and mineral-ceramic bits. Trudy Sem. po kach. poverkh. no.3:223-235 '57. (MLRA 10:11)

(Cutting tools) (Grinding and polishing)

PA - 3620

AUTHOR: KORSHUNOV,B.S.

TITLE: The Grinding of Hard Alloys by the Application of Double Cooling. (Shlifovanie tverdykh splavov s primeneniyem dvoynogo okhlazhdeniya, Russian)

PERIODICAL: Stanki i Instrument, 1957, Vol 28, Nr 6, pp 27-28 (U.S.S.R.)

ABSTRACT: Two parallel processes take place during the grinding of hard alloys: the mechanical separation of the hard alloy particles by grinding off the cobalt binding, the stripping off and partly shearing off of carbide cores and the process of oxidation of the binding and the alloy carbides by the high temperature forming in the grinding zone. Besides, cracks and rents are apt to form on the hard alloy surface during grinding. Cooling is one of the means by which grinding is rendered more easily and which also improves its quality.

At present not only various coolants with different feed velocities, but also various different methods are being employed: external cooling, or a combination of external and internal cooling (through the pores of the grinding disk), in which case internal cooling serves as a sort of lubrication.

Grinding disks with bakelite and ceramic binding were used in tests.

Card 1/2

PA - 3620

The Grinding of Hard Alloys by the Application of Double Cooling.

Spindle oil was used for internal cooling, and a 3 - 5% aqueous solution of sodium nitrate was used for external cooling. The internal cooling system and experimental results are shown. (4 Illustrations).

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress

Card 2/2

KORSHUNOV, B. S.

4E2c
4E3d

Combined electrochemical and mechanical method for grinding hard alloys. B. S. Korshunov. *Vestnik Mashinostroeniya* 37, No. 6, 54-6(1957).—Hard carbide alloys are ground with a 120-grit wheel applied under a pressure [illegible] in the presence of a 25% aq. $CuSO_4$ soln. [illegible] the soln. softens the outside [illegible] easily attacked by the [illegible] that applying a pos. current [illegible] speeds the abrasion, but its voltage [illegible] be above 6-8 v., since this leads to electrochem. [illegible] and lowers the surface quality. Both faster wheel speed and greater feed increase the rate of the metal removal, but the former should not be higher than 1.2-1.5 m./sec. to prevent excessive splashing. A.c. has no effect. J. D. Gat

MT

KOSMACHEV, Ivan Grigor'yevich, insh.; KORSHUNOV, B.S., kand.tekhn. nauk, nauchnyy red.; SEREBRENNIKOVA, L.A., red.; PERSON, M.N., tekhn.red.

[Automatic hard facing of metal-cutting tools by weld deposition] Avtomatizatsiia naplavki reshushchikh instrumentov. Moskva, Vses.uchebno-pedagog.izd-vo Trudrezervizdat, 1958. 108 p. (Novaia tekhnika i peredovye metody truda). (MIRA 12:6)

(Metal-cutting tools) (Hard facing)

KORSHUNOV, B.S., kand. tekhn. nauk

Grindability of rapid and alloy tool steels. Trakt. i sel'khozmash. no.4:38-41 Ap '59. (MIRA 12:5)
(Tool steel)

KORSHUNOV, B.S., inzh.

Absorption of moisture by thermal insulators at low temperatures.
Kislerod 12 no.1:19-22 '59. (MIRA 12:6)
(Insulation (Heat)) (Absorption)

KORSHUNOV, B.S., kand.tekhn.nauk

Cutting tool equipped with cermet. Trakt.i sel'khozmash.
no.1:40-43 Ja '60. (MIRA 13:4)
(Metal-cutting tools)

KORSHUNOV, B.S., kand.tekhn.nauk

Grinding and lapping hard alloy cutting tools with diamond grinding wheels. Avt.prom. no.6:36-41 Je '60. (MIRA 13:8)
(Grinding and polishing)
(Diamonds, Industrial)

KARATYGIN, A.M., kand.tekhn.nauk, dotsent; KORSHUNOV, B.S., kand.tekhn. nauk

Using diamonds in grinding and lapping hard-alloy parts. Vest. mash. 41 no.11:58-63 N '61. (MIRA 14:11)
(Grinding and polishing)
(Diamonds, Industrial)

KARATYGIN, A.M., kand.tekhn.nauk; KORSHUNOV, B.S., kand.tekhn.nauk

Diamond machining of cutting tools equipped with hard alloys. (MIRA 15:11)
Vest.mashinostr. 42 no.11:47-49 N '62.
(Metal-cutting tools) (Grinding and polishing)

KORSHUNOV, B. S., kand. tekhn. nauk

The 3B71MB surface grinding machine. Biul. tekh.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekh. inform. no. 10:44-45 '62. (MIRA 15:10)

(Grinding machines)

KARATYGIN, A.M., kand. tekhn. nauk; KORSHUNOV, B.S., kand. tekhn. nauk; MASLOV, Ye.N., prof., doktor tekhn. nauk, retsenzent; ZAVOZIN, L.F., inzh., red.; IVANOVA, N.A., red.izdva; EL'KIND, V.D., tekhn. red.

[Grinding and lapping metal-cutting tools] Zatochka i dovodka rezhushchego instrumenta. Izd.2., perer. i dop. Moskva, Mashgiz, 1963. 270 p. (MIRA 16:12)
(Metal-cutting tools)
(Grinding and polishing)

KORSHUNOV, B.S., kand.tekhn.nauk

School for diamond machining at the Exhibition of the Achievements of the National Economy. Mashinostroitel' no.1:43 Ja '65. (MIRA 18:3)

KORSHUNOV, D., inzh.

Composite reinforced concrete roofs in industrial construction. Prom.stroi.i inzh.soor. 4 no.1:28-31 Ja-F '62. (MIRA 15:8)
(Roofing, Concrete) (Industrial buildings)

KORSHUNOV, D., inzh.; AKATOV, G., inzh.

Testing part of a composite roof. Prom. stroi. i inzh. soor. 5 no.2:20-24 Mr-Ap '63. (MIRA 16:4)

(Roofing, Concrete—Testing)

SOV/97-58-12-3/13

AUTHORS: Yarin, V.N., Member of ASiA Ukrainian SSR, Professor; Rivkin, S.A., Candidate of Technical Sciences; and Korshunov, D.A., Pereyaslavtsev, N.A. and Kisiliyer, M.I., Engineers.

TITLE: Use of Precast Large-Block Reinforced Concrete Foundations Under Columns of the Main Building of Simferopol' GRES (Opyt primeneniya sbornykh krupnoblochnykh zhelezobetonnykh fundamentov pod kolonny glavnogo korpusa Simferopol'skoy GRES).

PERIODICAL: Beton i Zhelezobeton, 1958, Nr.12, pp.449-453 (USSR)

ABSTRACT: Engineers N.A. Pereyaslavtsev and M.I. Kisilier, of the Kiyev Branch of Teploelektroproyekt, designed a new type of precast large-block reinforced concrete foundation as illustrated in Fig.1. These new foundation slabs were tested by the Kiyev structural Engineering Institute (Kiyevskiy inzhenerno-stroitel'nyy institut), Kiyev Branch of Teploelektroproyekt and by Yuzhenergostroy (Engineers I.F. Pishchik, Yu.A. Vol'ters and S.K. Prshiyalgovskiy). The foundation blocks were

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Use of Precast Large-Block Reinforced Concrete Foundations Under Columns of the Main Building of Simferopol' GRES.

designed to carry 500 t positioned centrally: they measure 5.2 x 3.5 m and weigh 15.7 t. The weight of the saddle is 10.6 t. Concrete of mark 300 was used, with reinforcement from hot rolled steel of standard profile mark 2502S. Fig.2 illustrates the points which were taken into account in testing. The foundations were tested by a load gradually increasing by 0.5-1 kg/cm^2, up to the breaking limit. Table 1 gives values obtained during testing: Fig. 3 illustrates the character of cracks which appeared, and Fig.4 shows the deformation of the foundation slab. Fig. 5 illustrates the method on which the calculation of the foundation is based: formula for the bending moment of the loaded foundation is presented and explained. The calculation of the foundation for shear stresses is carried out according to NiTU 123-55. The following recommendations are given for the construction of precast foundations: the concrete should not be of lower mark than 200; to save steel the size of the saddle should be bigger; account should be taken of the shear stresses, and the necessity for stirrups and

Use of Precast Large-Block Reinforced Concrete Foundations Under Columns of the Main Building of Simferopol' GRES.

bends obviated; the recess in the foundation housing the beam should have walls not less than 300 mm thick; the reinforcement of the slab should be carried through the whole of its length, as should also the reinforcement of the saddle. The results of the above tests were taken into account in designing the precast large-block reinforced concrete construction under the columns of the Simferopol' GRES (see Fig.6). Assembly was carried out by the Donbassenergostroy of the Ministry of Building of the Ukrainian SSR (Ministerstvo stroitel'stva USSR). The foundations were produced by the "Stroydetal'" factory. Assembly was carried out by cranes BK-403 and BK-405, of 40 t capacity. Assembly of 70 foundation slabs with a total volume of 1066 m^3 of reinforced concrete was carried out in 15 days. Table 2 gives values indicating labour requirements. There are 6 figures and 2 tables.

LIBERMAN, A.D., kand.tekhn.nauk; KORSHUNOV, D.A., inzh.

Selecting types of panels for ceilings of industrial buildings.
Prom.stroi. 38 no.1:20-22 '60. (MIRA 13:5)

1. Nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury USSR.
(Concrete slabs) (Ceilings)

RIVKIN, Solomon Abramovich; KORSHUNOV, Dmitriy Andreyevich; FRENKEL', Mariya Matveyevna; SHIKAN, T.N., red.; LEUSHCHENKO, N.L., tekhn. red.

[Precast reinforced concrete foundations for frame buildings] Sbornye zhelezobetonnye fundamenty karkasnykh zdanii; raschet i konstruirovanie. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1962. 135 p. (MIRA 15:4)

(Concrete footings)

LIBERMAN, A.D., kand.tekhn.nauk; KORSHUNOV, D.A., inzh.

Composite roofs for industrial buildings. Bet. i zhel.-bet. 8 no.7:289-294 Jl '62. (MIRA 15:7)
(Roofing, Concrete) (Industrial buildings)

KORSHUNOV, D.A., inzh.

Determining the control breaking load for precast reinforced concrete products. Bet. i zhel.-bet. 8 no.12:557-559 D '62. (MIRA 16:2)
(Precast concrete—Testing)

LIBERMAN, Al'fred Davidovich; KORSHUNOV, Dmitriy Andreyevich; RUBACH, Ol'ga Mikhaylovna; [illegible]INSKIY, Igor' Alekseyevich; KIYANICHENKO, N.S., red.; LEUSHCHENKO, N.A., tekhn. red.

[Large reinforced concrete structures in industrial construction] Krupnorazmernye zhelezobetonnye konstruktsii v promyshlennom stroitel'stve; iz opyta stroitel'stva mekhanosborochnogo korpusa zavoda stankov-avtomatov im. Gor'kogo v Kieve. Kiev, Gos.izd-vo lit-ry po stroit. i arkhit. USSR, 1963. 49 p. (MIRA 16:9)
(Precast concrete construction)

KORSHUNOV, D.A., inzh.; KOZLOV, V.Sh., inzh.

Standard elements for precast monolithic short shells. Stroi. konstr. no.2:5-14 '65. (MIRA 18:12)

1. Nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy SSSR, Kiyev (for Korshunov). 2. Kiyevskiy Gosudarstvennyy proyektnyy institut po obshchestroitel'nomu i sanitarno-tekhnicheskomu proyektirovaniyu promyshlennykh predpriyatiy Gosstroya SSSR (for Kozlov).

KOZLOV, V.Sh., inzh.; SAMOLETOV, M.V., inzh.; KHARITONOV, I.G., inzh.; KORSHUNOV, D.A., kand. tekhn. nauk

Standardization of open gantry cranes. Prom. stroi. 42 no.6: 20-23 '65. (MIRA 18:12)

1. Kiyevskiy gosudarstvennyy proyektnyy institut po obshchestroitel'nomu i sanitarno-tekhnicheskomu proyektirovaniyy promyshlennykh predpriyatiy Gosstroya SSSR (for all except Korshunov). 2. Nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy Gosstroya SSSR (for Korshunov).

KORSHUNOV, D. V.

556 Opyt mekhanizatsii i elektrifikatsii trudoyemkikh protsessov na zhivotnovodcheskikh fermakh kolkhoza imeni suerdlova, Aramic'skogo rayona Sverdlovskoy o blasri. TM.), 1954. 8s. 20 sm. (M-vo sel'skogo Khozyaystva SSSR. M-vo sovkhozoa SSSR. Vsesoyuz. nauch. inzh-tekhn. O-vo engrgetikov. Nauch.- tekhn. soveshchaniye po mekhanizatsii i elektrifikatsii trudoyemkikh protsessov zhivotnovodstva). 1.000 ekz. Bespl.-[54-54641] p 636.0025 (47.8111)

SO: Knizhnaya Letopis, Vol. 1, 1955

KORSHUNOV, G.

Technological planning and the protection of labor. Sots.trud no.6:60-62 Je '57. (MLRA 10:7)

(Industrial safety)

KORSHUNOV, G., kand.tekhn.nauk (Sverdlovsk); SOBOLEV, P., inzh. (Sverdlovsk)

Technology is improving but air pollution does not decrease. Okh. truda i sots.strakh. no.1:39-40 Ja '60. (MIRA 13:5)
(Industrial hygiene)

KORSHUNOV, G. S.

PANASENKO, A. D. Mechanization of hydraulic engineering in land reclamation. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1950. 333 p. (Uchebniki i uchebnye posobiia dlia sel'skokhoziaistvennykh tekhnikumov) (51-38004)

TC145.P26

(Continued on next card)

KORSHUNOV, G. S.

7554-57 KORSHUNOV, G. S., KRYLOV, A. I., BOL'NITSA NA 35 KOYEK (S POLIKLINIKOY NA 75 POSESHCHENIY V SMENU). M., IZD-VO GIPROZDRAVA, 1954. 48X60 SM. (M-VO ZDRAVOOKHRANENIYA SSSR. VSESOYUZ. GOS. IN-T PO PROYEKTIROVANIYU MED- SAN. I LECHEBNO-PROFILAKT. SOORUZHENIY "GIPROZDRAV". TIPOVOY PROYEKT. NO. 2-05-15.) 500 EKZ. (250). B. TS. SVETOGR. IZD. 614.211: 692

SO: KNIZHNAYA LETOPIS--Vol. 7, 1955

AID Nr. 990-12 14 June KORSHUNOV, G.S.

HIGH-VOLTAGE PULSE GENERATOR IN THE NANOSECOND RANGE (USSR)

Vorob'yev, G. A., G. A. Mesyats, and G. S. Korshunov. Pribory i tekhnika eksperimenta, no. 2, Mar-Apr 1963, 98-101. S/120/63/000/002/023/041

A recently developed spark-gap pulse generator is described which was designed to deliver clean high-voltage pulses of the order of a nanosecond in duration. The discharge electrodes and pulse-forming capacitance were enclosed in a chamber which could be pressurized up to several atmospheres; the electrodes were 1.4-cm spheres of stainless steel capped with molybdenum. The distance between them was adjustable. The charge circuitry was conventional, but care was taken to optimize output pulse shape, including the use of a ceramic discharge capacitor and parallelled output cables of 75-ohm impedance each. The effective inductance of the latter

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HIGH-VOLTAGE PULSE GENERATOR [Cont'd] S/120/63/000/002/023/041

was minimal ($L \approx 5 \times 10^{-9}$ h). With a pulse-forming capacitor of 1000 μμf and an output line distributed capacitance of approximately 10 μμf, 16-kv pulses were achieved of approximately 3 nanosec in width and not over 1 nanosec in rise time at repetition rates from 1 to 50 cps and a spark-chamber pressure of 9.5 atm. Other tests included: varying the pulse width both by adding charging capacitance and by altering output transmission line length. Various studies of pulse shape behavior with change in pressure and discharge capacitance values were also conducted. [SH]

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L 17326-63 EWT(1)/BDS/ES(w)-2 AFFTC/ASD/SSD Pab-4

ACCESSION NR: AP3004902 S/0120/63/000/004/0115/0117

AUTHOR: Mesyats, G. A.; Korshunov, G. S. 60 59

TITLE: Investigating the operation of a 3-electrode spark gap with nanosecond stability of discharge 21

SOURCE: Pribory*i tekhnika eksperimenta, no. 4, 1963, 115-117

TOPIC TAGS: spark gap, 3-electrode spark gap

ABSTRACT: Some theoretical considerations are set forth and experiments are briefly described with a spark gap whose third electrode is used as a peaking and pre-ionizing device. Breakdown time vs. spark-gap length characteristics were experimentally investigated at 14 and 30 kv. The best results were obtained with 14 kv and 0.1 mm third-electrode gap; error of operating time was ±1 nanosecond. Orig. art. has: 3 figures and 5 formulas.

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VOROB'YEV, G.A.; GOLYNSKIY, A.I.; KORSHUNOV, G.S.

Oscillographic recording of the front of a high-voltage nanosecond pulse. Prib. i tekh. eksp. 8 no.5:216-217 S-O '63. (MIRA 16:12)

1. Tomskiy politekhnicheskiy institut.

ACCESSION NR: AP4038649 S/0109/64/009/005/0882/0887

AUTHOR: Mesyats, G. A.; Usov, Yu. P.; Korshunov, G. S.

TITLE: Investigation of the spark lag in irradiated gaps for use in nanosecond pulse work

SOURCE: Radiotekhnika i elektronika, v. 9, no. 5, 1964, 882-887

TOPIC TAGS: spark gap, spark lag, irradiated spark gap, pulse work, nanosecond pulse work

ABSTRACT: R. C. Fletcher's investigations (Phys. Rev., 1949, 76, 10, 1501) were continued with a view toward using the results in nanosecond pulse work. From a surge generator with a sealed gap K (see Fig 1 of the Enclosure), pulses were applied to an auxiliary 0.5-mm gap G whose spark irradiated the main gap G. The latter was either of an open type or a quartz-window sealed type (at 360 torr). A positive 15-kv peak was used in all the experiments. The irradiation time was varied by altering the length of the G_a supply cable. The effect of the intensity and time of irradiation on the 10^{-9}-sec-front-pulse lag was studied. Also,

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ACCESSION NR: AP4038649 ENCLOSURE: 01

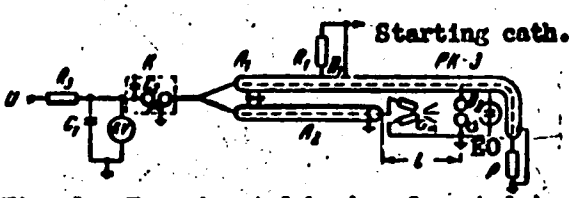

Fig. 1. Experimental hookup for studying the effects of irradiated-gap spark lag

D_1 D_2 - capacitive dividers; K - coaxial chamber; EO - Event-recording oscillograph

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KORSHUNOV, I., gvardii mayor.

Packing low-power radio transmitters. Voen.sviaz. 11 no.3:39-40 Mr '53. (MLRA 8:3)
(Radio, Military) (Radio stations)

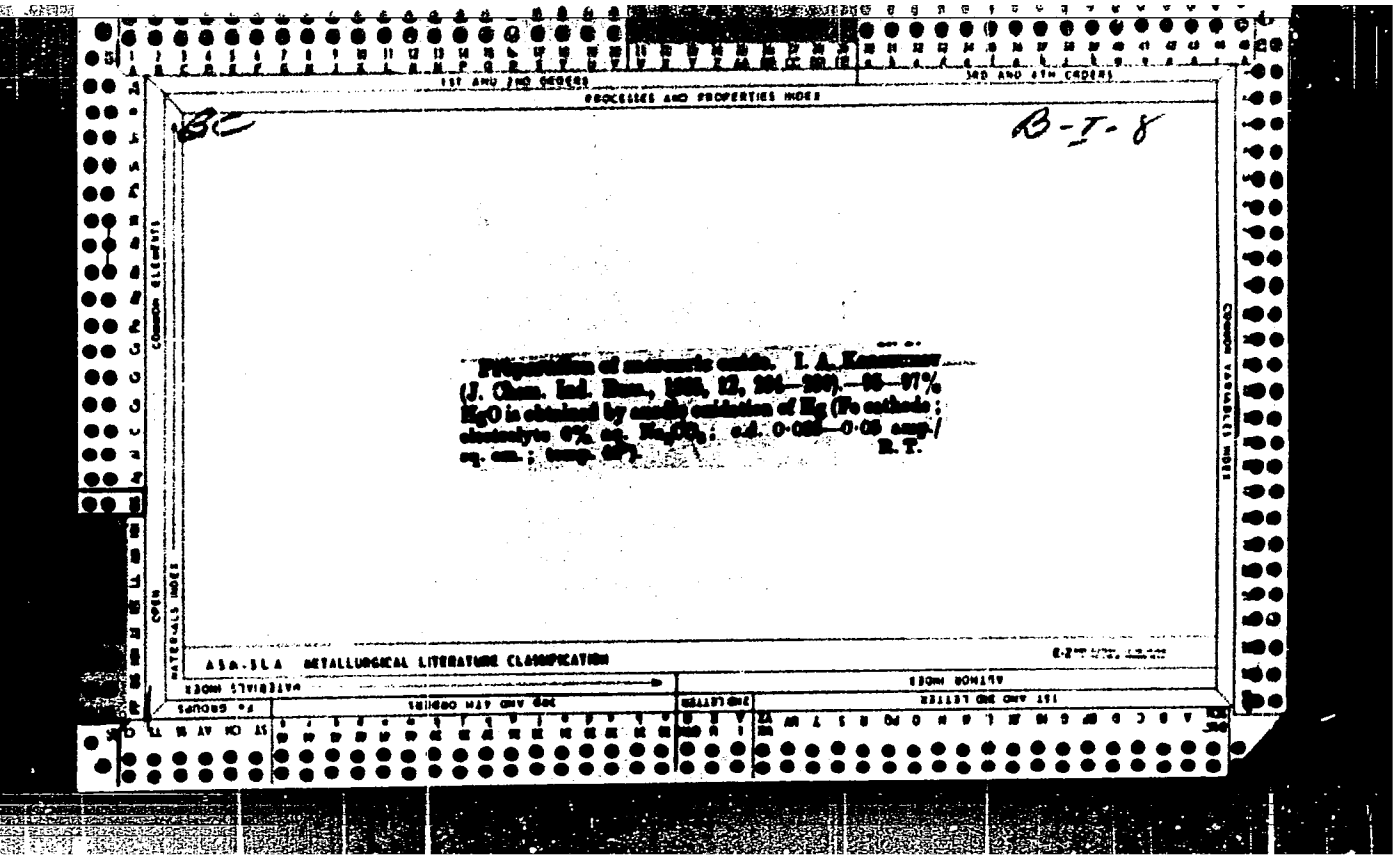
VINNICHENKO, Nikolay Gavrilovich; VLASOVA, Yevgeniya Nikolayevna; KORSHUNOV, Ivan Alekseyevich; SHCHERBAKOV, P.D., retsenzent; TELICHKO, V.G., retsenzeng; KRISHTAL', L.I., red.; VOROB'YEVA, L.V., tekhn. red.

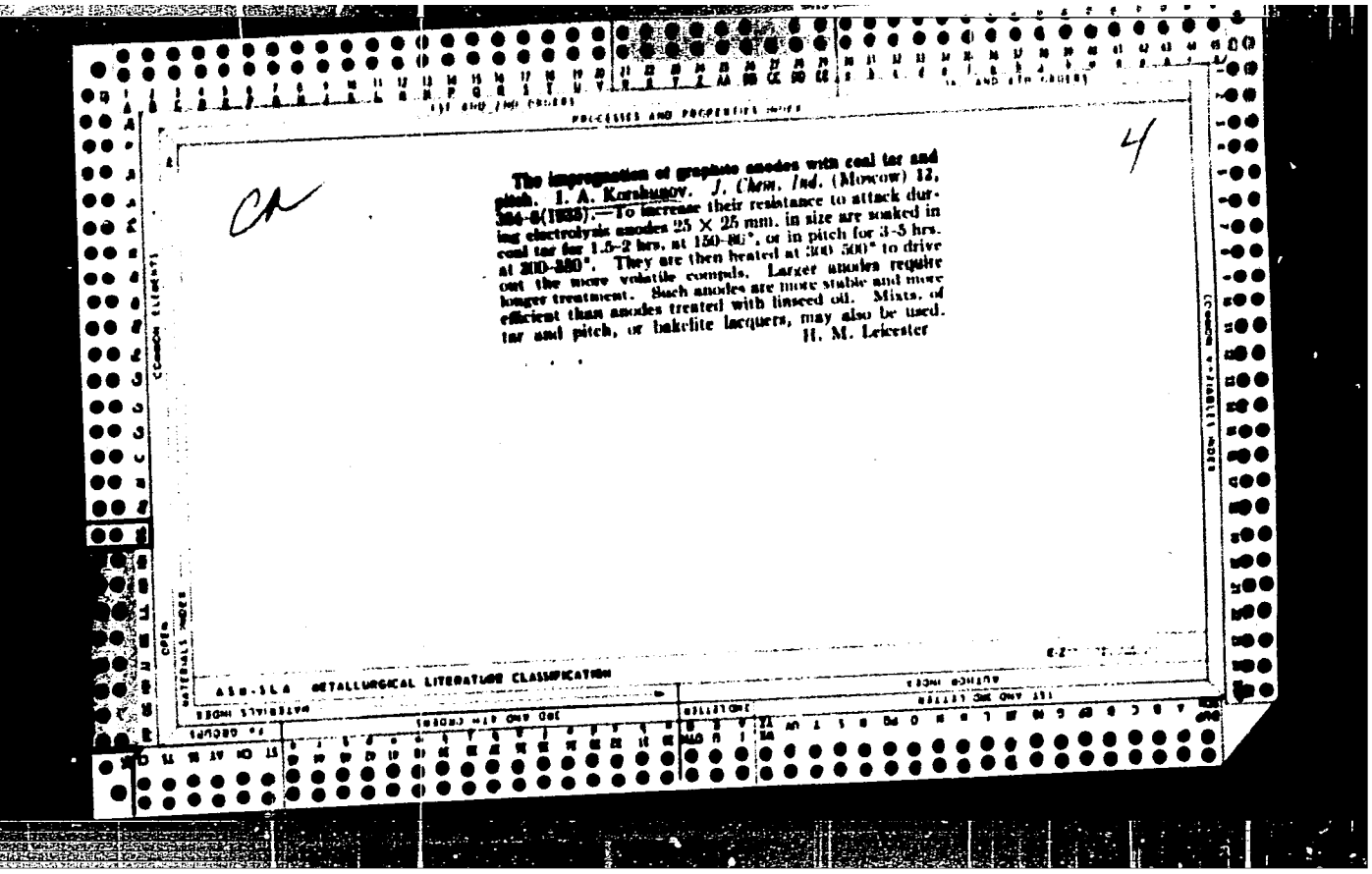
[Economic potentials of a locomotive depot; practice of the Tula Locomotive Depot, Moscow Railroad] Ekonomicheskie rezervy lokomotivnogo depo; opyt lokomotivnogo depo Tula Moskovskoi dorogi. Moskva, Transzheldorizdat, 1962. 54 p. (MIRA 15:6)
(Moscow Province--Railroads--Management)

AMENITSKAYA, R.V.; BATALOV, A.P.; GLAZOV, V.M.; KORSHUNOV, I.A., prof.; KUTSEPIN, V.F.; NOVOTOROV, N.F.; ORLOVA, A.A.; PETROV, A.M.; SHAFIYEV, A.I.

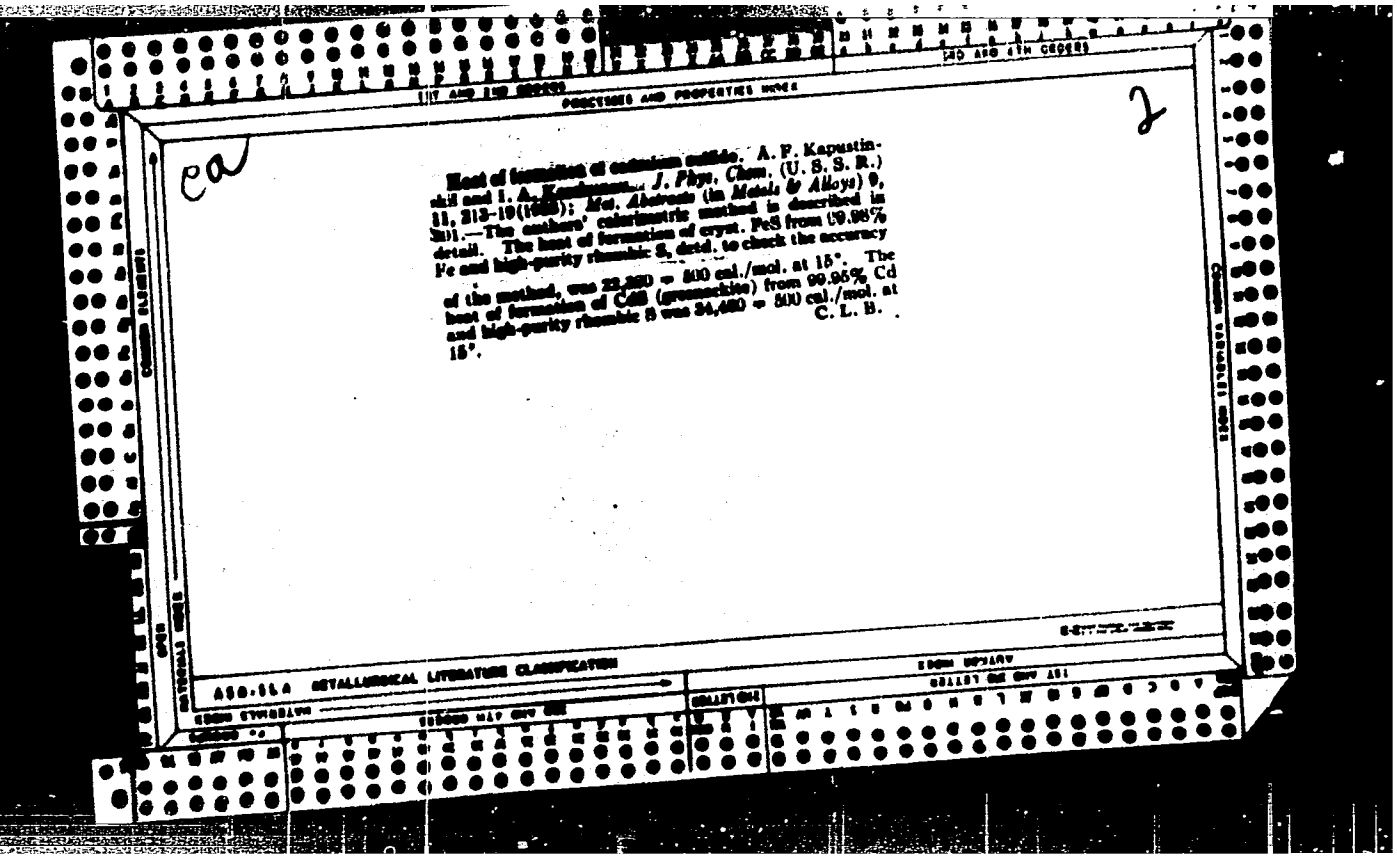
[Problems in radiochemistry] Sbornik zadach po radiokhimii. [By] R.V.Amenitskaia i dr. Pod red. I.A.Korshunova. Gor'kii, Gor'kovskii gos. univ. im. I.I.Lobachevskogo, 1959. 91 p. (MIRA 15:11)

1. Prepodavateli khimicheskogo fakul'teta Gor'kovskogo gosudarstvennogo universiteta im. N.I.Lobachevskogo (for all)
(Radiochemistry)



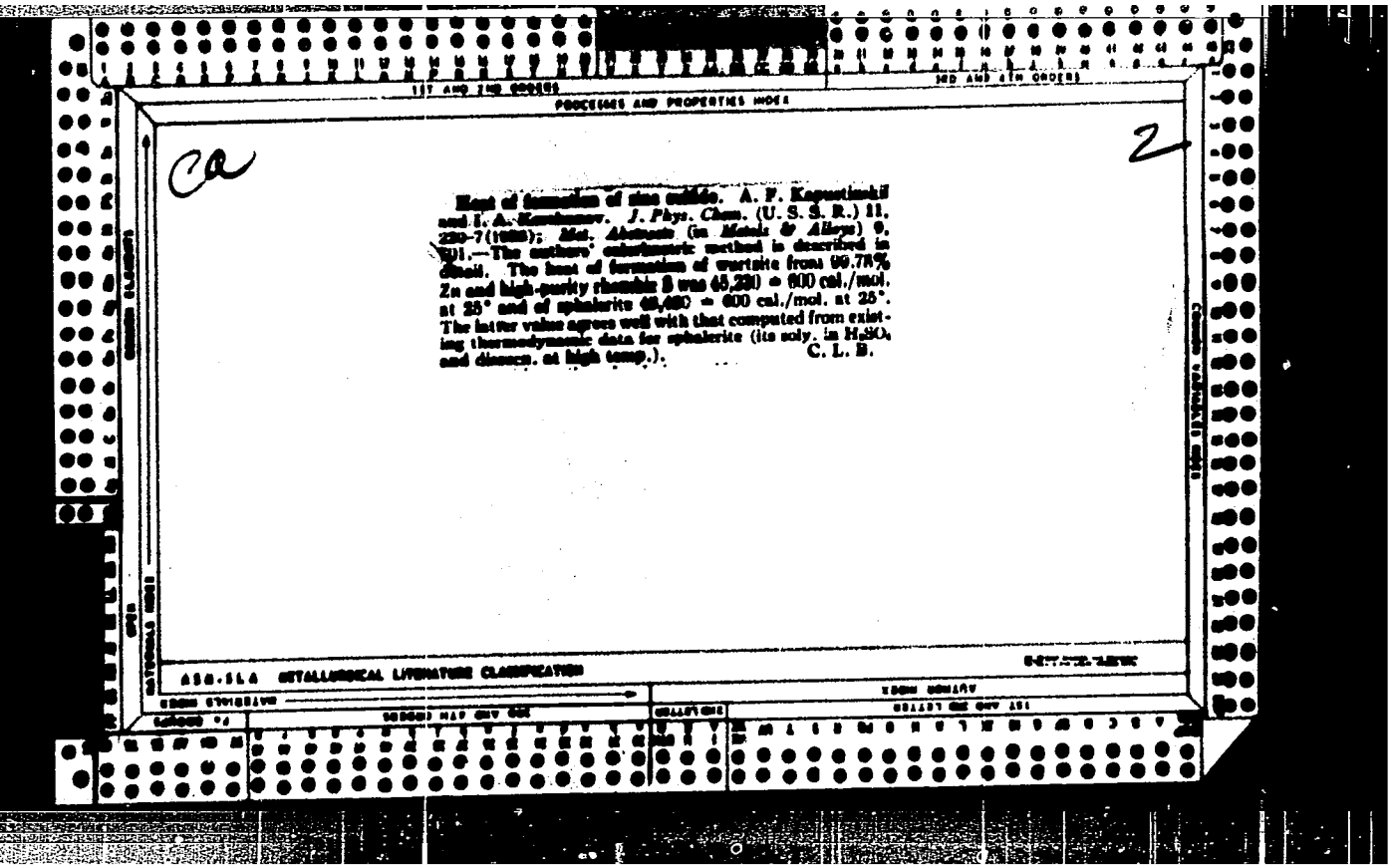


The impregnation of graphite anodes with coal tar and pitch. I. A. Korshunov. *J. Chem. Ind.* (Moscow) 12, 304-6(1935).—To increase their resistance to attack during electrolysis anodes 25 × 25 mm. in size are soaked in coal tar for 1.5-2 hrs. at 150-80°, or in pitch for 3-5 hrs. at 210-30°. They are then heated at 500-500° to drive out the more volatile compds. Larger anodes require longer treatment. Such anodes are more stable and more efficient than anodes treated with linseed oil. Mixts. of tar and pitch, or bakelite lacquers, may also be used.
H. M. Leicester



Heat of formation of cadmium sulfide. A. F. Kapustinskii and I. A. Kondyurin. *J. Phys. Chem.* (U. S. S. R.) 11, 313-19(1938); *Met. Abstracts* (in *Metals & Alloys*) 9, No. 1.—The authors' calorimetric method is described in detail. The heat of formation of cryst. FeS from 99.98% Fe and high-purity rhombic S, detd. to check the accuracy of the method, was 22,850 ± 800 cal./mol. at 15°. The heat of formation of CdS (greenockite) from 99.95% Cd and high-purity rhombic S was 34,480 ± 500 cal./mol. at 15°.

C. L. B.



PROCESSES AND PROPERTIES INDEX

Ca

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Heat of formation of zinc oxide. A. F. Kapustinskiĭ and I. A. Kazarnovskiĭ. *J. Phys. Chem.* (U. S. S. R.) 11, 220-7 (1938); *Met. Abstracts* (in *Metals & Alloys*) 9, 201.—The authors' calorimetric method is described in detail. The heat of formation of wurtzite from 99.78% Zn and high-purity rhombic S was 45,230 ± 600 cal./mol. at 25° and of sphalerite 45,480 ± 600 cal./mol. at 25°. The latter value agrees well with that computed from existing thermodynamic data for sphalerite (its soly. in H_2SO_4 and dissocn. at high temp.). C. L. B.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

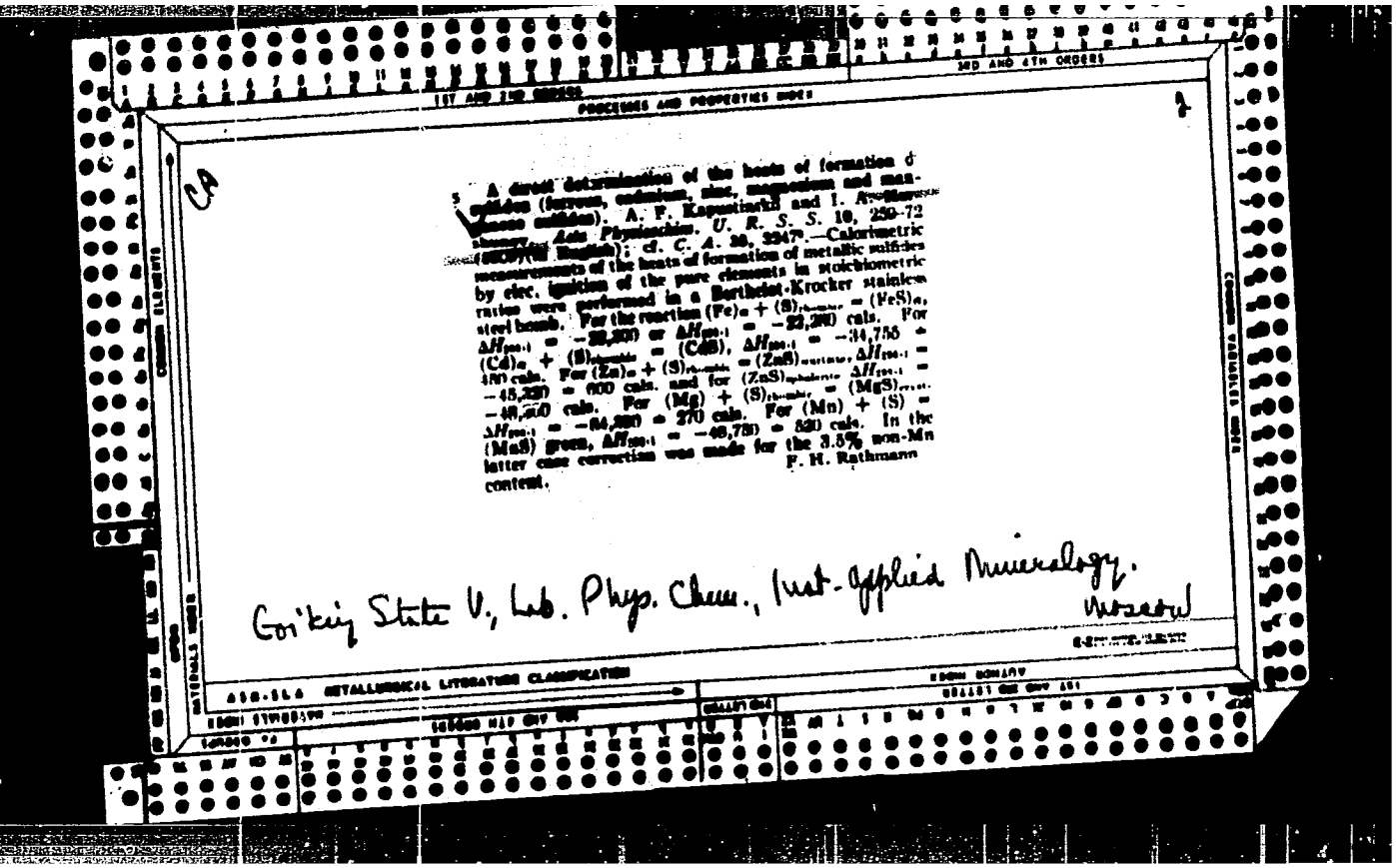
ca

2

The heat of formation of zinc and cadmium sulfides. I. A. [illegible]. *Sci. Records Gorky State Univ.* 7, 48-64 ([illegible]).—Pure Zn ([illegible]%, rest ZnO), cadmium (99.95%) and S were used in the detn. of the heat of the following reactions. The heat of reaction Zn(*s*) + S (rhomb.) = ZnS (wurtzite) was [illegible] ± 800 cal./mol. at 15° and [illegible] cal./mol. at 25°. The heat of reaction Zn(*s*) + S (rhomb.) = ZnS (sphalerite), was calcd. thermodynamically and found equal to [illegible] ± 800 cal./mol. at 25° (ΔF° = −[illegible] cal./mol.). The heat of reaction Cd (*s*) + S (rhomb.) = CdS (greenockite) was 34770 ± 480 cal./mol. at 25° (ΔF° = −33740 cal./mol.). To assure correctness of the method and app., the heat of reaction Fe (*s*) + S (rhomb.) = FeS (cryst.) was detd. and found to be [illegible] cal./mol. at 25° (ΔF° = −23010 cal./mol.). The heats of formation of MnS (44800 cal./mol. at 25° ΔF° = −[illegible] cal./mol.), PbS (22140 cal./mol. ΔF° = −22720 cal./mol.), CuS ([illegible] cal./mol. ΔF° = −20840 cal./mol.), CdS (11610 cal./mol. ΔF° = −11730 cal./mol.), SnS (17700 cal./mol.) and AgS (6600 cal./mol. at 25°) were calcd. from literature data. The calorimeter and method used are described. Seventy-seven references.

A. A. Podgorny

A1B-ILA METALLURGICAL LITERATURE CLASSIFICATION



A direct determination of the heats of formation of sulfides (ferrous, cadmium, zinc, magnesium and manganous sulfides). A. F. Kapustinskii and I. A. [illegible]. *Acta Physicochim. U. R. S. S.* 10, 259–72 (1939) (in English); cf. *C. A.* 33, 3247⁹.—Calorimetric measurements of the heats of formation of metallic sulfides by elec. ignition of the pure elements in stoichiometric ratios were performed in a Berthelot-Krocker stainless steel bomb. For the reaction $(Fe)_c + (S)_{rhombic} = (FeS)_c$, $\Delta H_{298.1} = -22,200$ cals. For $(Cd)_c + (S)_{hexagonic} = (CdS)$, $\Delta H_{298.1} = -34,755 \pm 400$ cals. For $(Zn)_c + (S)_{rhombic} = (ZnS)_{sphalerite}$, $\Delta H_{298.1} = -45,220 \pm 400$ cals. and for $(ZnS)_{sphalerite}$ $\Delta H_{298.1} = -48,240$ cals. For $(Mg) + (S)_{rhombic} = (MgS)_{cryst.}$ $\Delta H_{298.1} = -84,300 \pm 270$ cals. For (Mn) + (S) = (MnS) green, $\Delta H_{298.1} = -48,780 \pm 520$ cals. In the latter case correction was made for the 3.5% non-Mn content.

F. H. Rathmann

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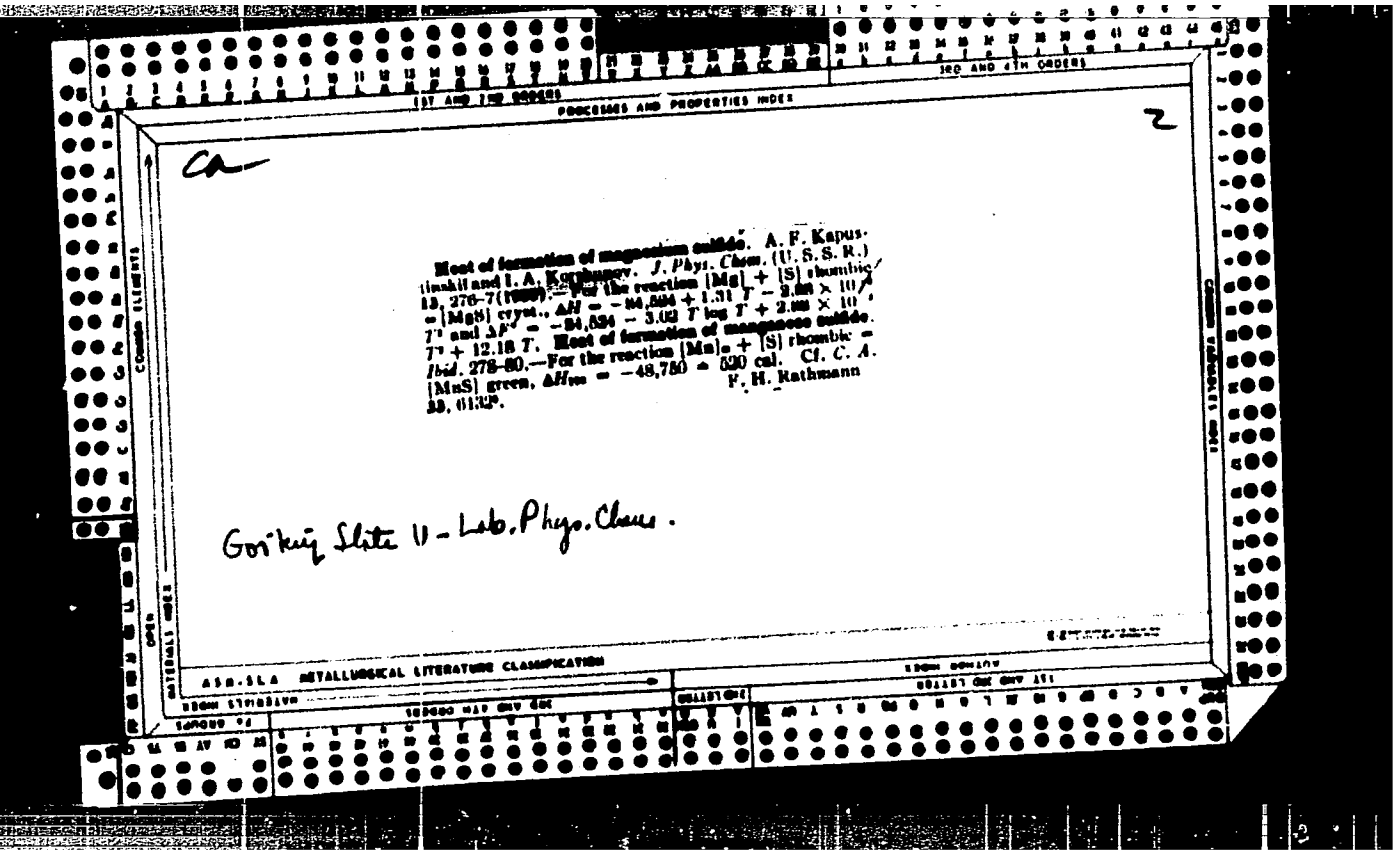
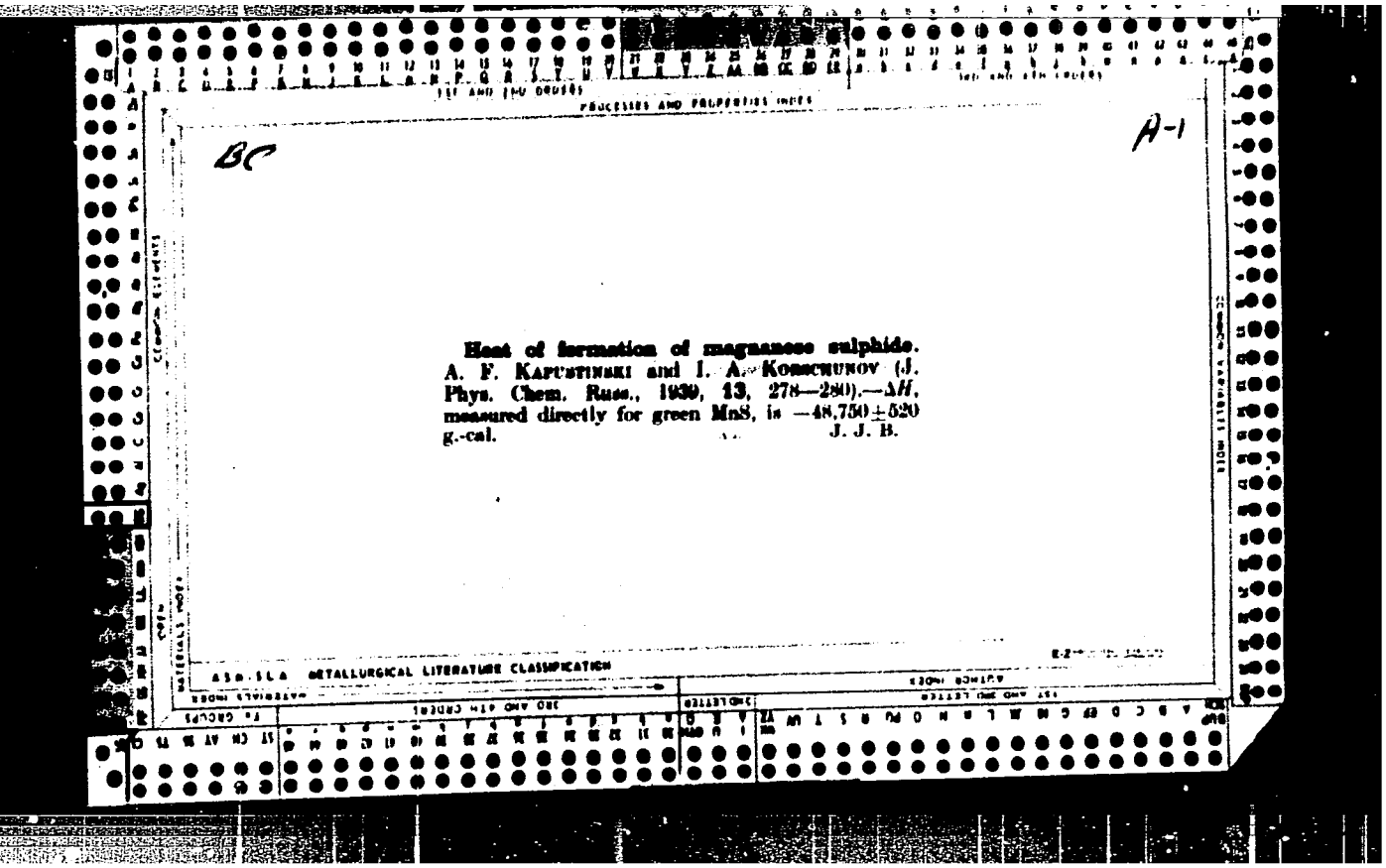
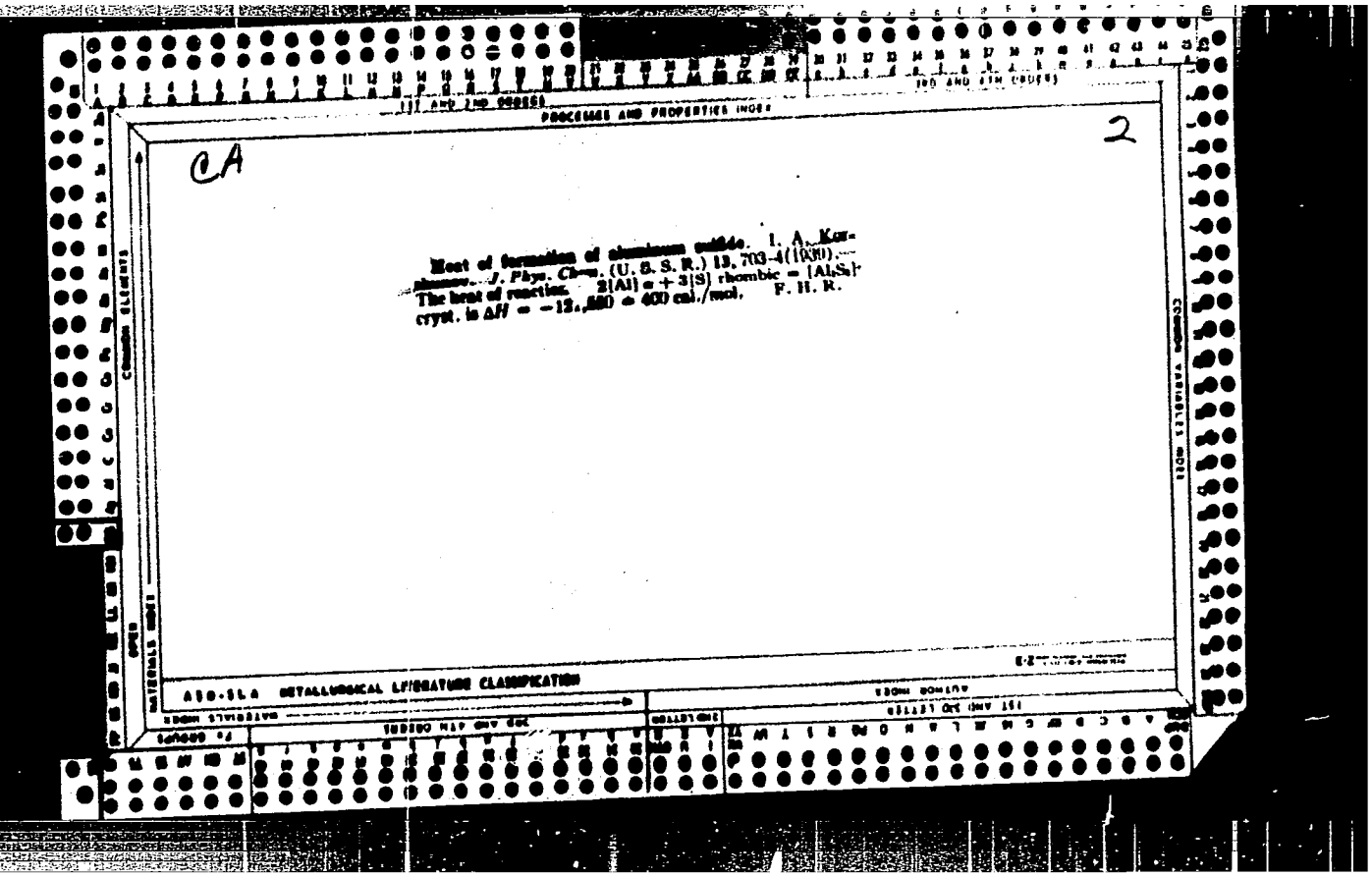




BC

A-1

Heat of formation of manganese sulphide. A. F. KAPUSTINSKI and I. A. KONSCHUNOV (J. Phys. Chem. Russ., 1939, **13**, 278—280).—ΔH, measured directly for green MnS, is $-48{,}750 \pm 520$ g.-cal. J. J. B.



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Ch 2

Determination of the heats of reaction of sulfur with lead and tin. I. A. Korshunov. *J. Gen. Chem.* (U. S. S. R.) 10, 2087-90(1940).—The expts. were made in a 25 ml. stainless steel bomb. A mixt. of S, Mg and a small amt. of Pb was placed in a quartz crucible, Pt wire was passed through the mixt. and another layer of S and Pb (or Sn) and a layer of pure powdered Pb (or Sn) were added. Dry N was passed through the mixt. and the bomb placed in a cylindrical Cu calorimeter. The duration of the main period of the expt. was 4-6 min. and the correction for radiation was 1.0-1.5% of the total rise in temp. After the reaction the gases from the bomb were analyzed for H_2S by absorption in standard I soln. The solid reaction products were treated with CS_2 to ext. S. The remaining mixt. of sulfides and excess metals was treated with HCl in slight excess of the amt. necessary to dissolve Mg and MgS, first in the cold and later with moderate heating. Under these conditions no Pb and Sn sulfides could be dissolved, so MgS could be detd. from the amt. of H_2S formed. PbS and SnS were calcd. by difference and verified by the amt. of S in the washed residue after dissolving Mg and MgS. The products were brittle alloys with clearly defined cryst. structures. In some expts., owing to the high temp. of the reaction, small amts. of sulfides were pptd. on the cold parts of the bomb as an amorphous layer (black for PbS and dark brown for SnS). The av. values of ΔH_{298}, for the reactions $[Pb]_\alpha + [S]_{rhombic} = [PbS]_\alpha$ and $[Sn]_\alpha + [S]_{rhombic} = [SnS]_\alpha$ are −22,280 and −18,610 cal., resp. From these values the heats of formation of intermetallic compds. of Pb and Sn were calcd. If it is assumed that all excess Mg reacts with Pb and Sn, then the ΔH values for the reactions $Pb + 2Mg = PbMg_2$ and $Sn + 2Mg = SnMg_2$ at 25° are −4175 and −47,800 cal., resp. Six references. W. R. Henn

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

3RD AND 4TH ORDERS