"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Reciprocal system of lithium and sodium chlorides and

Na_2SO_4 and $LiSO_4 \cdot 2Na_2SO_4$

of which (60.4% of total area) is occupied by

occupied by the polymorphic forms of $LiSO_4$

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Bergman, A. G.

USSR.

Singular irreversible reciprocal system with conjugate solutions of silver and lithium chlorides and sulfates. S. Leanykh and A. O. Bergman. J. Gen. Chem. U.S.S.R. 23, 889-R(1953)(Engl. translation).—See C.A. 49, 14[illegible]

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.

USSR

An irreversibly-reacting system with immiscibility of the sulfates and chlorides of lithium and cadmium. D. S. Lesnykh and A. G. Bergman. *J. Gen. Chem. U.S.S.R.* 23, 657-61(1953)(Engl. translation).—See *C.A.* 48, 3130f.
H. L. H.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

USSR/Chemistry - Lithium Salts; Cobalt Salts — Jun 53

"Mutual System Composed of the Sulfates and Chlorides of Lithium and Cobalt," D.S. Lesnykh, A.G. Bergman, Rostov-on-Don State U im V.M. Molotov

Zhur Obshch Khim, Vol 23, No 6, pp 894-901

Investigated the thermochemical relationships in the mutual ternary system composed of the salts Li_2Cl_2 + $CoSO_4$ + $CoCl_2$ + Li_2SO_4. Found that this system consists of 2 ternary systems: $CoCl_2$-Li_2SO_4-

273T24

Li_2Cl_2 with a triple eutectic point at 452° and $CoCl_2$ - Li_2SO_4 - $CoSO_4$ with a triple eutectic point at 507°.

273T24

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.; SHOLOKHOVICH, M.L.

Reciprocal system of the adiagonal-zonal eutetic type, composed of metaphosphates and sulfates of lithium and potassium. Zhur.ob.khim. 23 no.7: 1075-1085 Jl '53. (MLRA 6:7)

1. Rostovskiy Gosudarstvennyy univesitet imeni Molotova.
(Systems (Chemistry)) (Phosphates) (Sulfates)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.; KISLOVA, A.I.; POSYPAYKO, V.I.

Complex formation and metathesis in ternary systems of the sulfates, tungstates and metaborates of lithium and potassium. Doklady Akad. Nauk S.S.S.R. 88, 815-18 '53. (MLRA 6:2)
(CA 47 no.22:12090 '53)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

The adiagonal reciprocal system of zonal type from sulfates and chlorides of potassium and cobalt. M. S. Kolubeve and A. G. Bergman. *Doklady Akad. Nauk S.S.S.R.* 89, 689-92(1953).—Two diagonal, 1 stable adiagonal, and 33 inner sections are given for the reciprocal system K, Co||Cl, SO_4. Anhydrokainite is not formed. K_2SO_4.-$CoSO_4$, $K_2SO_4.2CoSO_4$, $CoCl_2.2KCl$, $5CoCl_2.9KCl$, and $CoCl_2.KCl$ exist. There is a ternary heterosalt (phase X, whose compn. was not exactly detd. and a complex is formed in the solid state in the binary system of K_2SO_4 and $CoSO_4$ (phase Y). Strong complex formation is characteristic of the system. The full diagram indicates existence of 3 eutectics and 5 transformation points. On reaction of these ions the cation complexes are more stable than the heteroionic types, in distinction to the corresponding Zn and Mg systems. H. M. Leicester

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

Conductivity of the diagonal cross-section of fused ternary reciprocal systems. I. N. Belyaev, A. G. Bergman, and L. I. Nomikos (State Univ. Rostov-on-Don). Doklady Akad. Nauk S.S.S.R. 91, 1103-1105. Sp. cond. of the stable system Ag_2Cl_2-Tl_2SO_4 and the unstable system Tl_2Cl_2-Ag_2SO_4 in the liquid phase in the system Tl, Ag||Cl,SO_4 and the unstable section Tl_2Br_2-Ag_2SO_4 in the system Tl, Ag||Br,SO_4 were measured by a previously described method (C.A. 47, 2028i). Isothermal curves of the cond. for the stable section Ag_2Cl_2-Tl_2SO_4 drop from the more conducting Ag_2Cl_2 to the less conducting Tl_2SO_4. These isotherms are similar to the isotherms of the sp. cond. for the common systems with the eutectic point on the liquidus curves. The isotherms for the unstable section have sharp min. corresponding to the formation of Tl_2SO_4 and $Ag_2SO_4.Tl_2SO_4$. The sp. cond. which corresponds to the formation of Tl_2SO_4 is less than the min. cond. of $Ag_2SO_4.Tl_2SO_4$. In the fused state of the three-component systems the equilibrium is displaced to the stable pair of salts or to the less dissocd. components similar to ideal binary systems. In the mixt. of fused salts in which exchange reaction or complex formation take place the components are incompletely dissocd. M. C.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

USSR/Chemistry - Physical chemistry

Card 1/1 : Pub. 147 - 17/21

Authors : Bergman, A. G.; Kislova, A. I.; and Posypayko, V. I.

Title : About complex formation in a mutual tetra-system consisting of Li, $K \| Cl$, SO_4, WO_4.

Periodical : Zhur. fiz. khim. 8, 1489-1496, Aug 1954

Abstract : In order to confirm the stability of complex $Li_2WO_4.K_2WO_4$ and $LiSO_4.K_2SO_4$ compounds in the composition of a mutual tetra Li, $K \| Cl$, SO_4, WO_4 system, the authors investigated the "interior" of the composition prism of this system by means of three book-leaf type and five triangular cross sections. It was established that the liquidus surface of the system consists of six basic crystallization fields, two of which occupy areas of 10.04 and 21.8% and the remaining four - the fields of pure components. The internal structure of the investigated composition-prism of the tetra system, is described. Five references: 4-USSR and 1-German (1907-1953). Tables; diagrams.

Institution : The Agricultural Institute, Krasnodar

Submitted : February 2, 1954

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

YEVSEYEVA, N.N.; BERGMAN, A.G.

Formation of heteroionic compounds in the reciprocal system of potassium and zinc chlorides and sulfates. Izv.Sekt.fiz.-khim.anal. 24:162-191 '54. (MIRA 8:4)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova Akademii nauk SSSR.
(Potassium salts) (Zinc salts)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.; KHITROV, V.A.

Irreversible-reciprocal system of potassium and sodium chromates and hydroxides. Izv.Sekt.fiz-khim.anal. 24:204-211 '54. (MIRA 8:4)

1. Voronezhskiy gosudarstvennyy pedagogicheskiy institut.
(Potassium) (Sodium)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.

USSR

Formation of complexes of the anionic type between pyrophosphates and oxygen salts of potassium and sodium of the type MO_4^{--} (M = sulfur, molybdenum, chromium, or tungsten). A. G. Bergman and M. L. Sholokhovich. *J. Gen. Chem. U.S.S.R.* 24, 606-8(1954)(Engl. translation). —See *C.A.* 49, 2931b. H. L. H.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

[illegible] orides and sulfates of potassium and [illegible]
Evseeva and A. G. Bergman (N. S. Kurnakov [illegible]
[illegible]

[illegible] (m. 450°). The fusion diagram for this system has 16 fields of crystn. and 18 invariant [illegible]

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

AKOPOV, Ye.K.; BERGMAN, A.G.

Interrelations of lithium, sodium, and potassium sulfates in melts. Zhur.ob.khim. 24 no.9:1512-1523 S '54. (MLRA 7:12)

1. Rostovskiy-na-Donu Gosudarstvennyy universitet i Kubanskiy sel'skokhozyaystvennyy institut.
(Sulfates) (Systems (Chemistry))

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

USSR/Chemistry

Card 1/1 : Pub. 151 - 8/42

Authors : Akopov, E. K., and Bergman, A. G.

Title : Reversibly-adiagonal sodium and potassium chloride and sulfate system

Periodical : Zhur. ob. khim. 24/9, 1524-1532, Sep 1954

Abstract : The chemical and structural properties of the Na, K||Cl, SO_4 system, which is a reversibly-adiagonal mutual system with conditional thermal interchange reaction effect and triangulation emanating from the compositional pole of the $2Na_2SO_4 \cdot K_2SO_4$ compound, are described. The existence of one ternary eutectic point and two transition points was established at 514°. The triangulation square of the reciprocal system is divided into three triangle phases. The structural diagram, made up of three basic crystallization fields, is described. Seven references: 6-USSR and 1-German (1905-1954). Tables; diagrams.

Institution : State University, Rostov/Don

Submitted : August 31, 1953

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.

USSR/Chemistry - Tetra-systems

Card 1/1 Pub. 151 - 5/37

Authors : Bergman, A. G.; Kislova, A. I.; and Posypayko, V. I.

Title : Double decomposition in the absence of the solvent. Part 2.- Tetra-system consisting of lithium and potassium chlorides, sulfates and tungstates

Periodical : Zhur. ob. khim. 24/10, 1722-1730, Oct 1954

Abstract : Five internal triangular sections in a composition-prism were investigated by a visual polythermal method to determine the dimensions of internal crystallization volumes and their disposition, tetrahedral form of the prism, composition and locations of tetra eutectic points of the system. The results obtained are described in detail. The dentritic form of crystallization of a tetra Li, K ‖ Cl, SO_4, WO_4 system was determined. Three USSR references (1936-1954). Tables; graphs; drawings.

Institution : The Agricultural Institute, Kuban

Submitted : February 17, 1954

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

USSR.

[illegible] internal cross sections through Li_2WO_4 crossing the Li_2Cl_2-Li_2SO_4 side at 10, 40, 60, and 75 mol. % Li_2Cl_2, and through Li_2SO_4 and the Li_2Cl_2-Li_2WO_4 side at 65, 75, and 85 mol. % Li_2Cl_2. Isotherms were taken every 50°. The system exhibits a eutectic at 434° with 32% Li_2SO_4, 47% Li_2Cl_2, and 21% Li_2WO_4. The crystn. fields of α- and β-Li_2Cl_2 occupy 33.38 and 3.06% of the total area, that of α- and β-Li_2WO_4 8.81 and 41.51%, and that of α- and β-Li_2SO_4 4.94 and 18.30%.

I. Bencowitz

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

USSR

The reciprocal system of chlorides and sulfates of lithium and calcium. M. S. Golubeva and A. G. Bergman (State Univ., Rostov-on-Don). *Zhur. Obshchei Khim.* 24, 1940-5 (1954). — The binary systems of the sides and the diagonals of the compn. square that represents the reciprocal system $LiCl_2$, Cl, SO_4 were redetd.; the temp. and the compn. (mol. %) of the eutectics of the following binary systems are: $LiCl_2$-Li_2SO_4, 480°, 52.5% Li_2SO_4; Li_2Cl_2-$CaCl_2$, 475°, 53% $CaCl_2$; Li_2SO_4-$CaSO_4$, 706°, 16.2% $CaSO_4$; $CaCl_2$-$CaSO_4$, 708°, 12.5% $CaSO_4$; Li_2Cl_2-$CaSO_4$, 533°, 25% $CaSO_4$; $CaCl_2$-Li_2SO_4, 627° and 600°, with 13.5 and 87.5% Li_2SO_4. There are 4 crystn. fields, with that of $CaSO_4$ occupying 76.5% of the total area, and 2 eutectics at 470° and 4[illegible]°. The fact that it is an irreversible-reciprocal system contradicts the classification on the basis of thermal effects of the reaction. 1.58 kcal./equiv. (cf. Bergman, *et al.*, *C.A.* 24, 2357).

I. Bencowitz

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Bergman, A. G.

Reaction of caustic alkalies with nitrates and nitrites of sodium and potassium. A. G. Bergman and N. A. Reshetnikov. *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 25, 208-17(1954). — Study of fusibility confirms formation of compds. $2NaOH \cdot NaNO_3$, $NaOH.NaNO_2$, $KOH.KNO_3$, $NaOH.NaNO_3$, and $KNO_3.KOH$ by reaction of alkalies with nitrates and nitrites. These compds. melt congruently at 272, 271.5, 236.5, 268, and 177°, resp. They might be considered as acid salts $Na_2H_3NO_4$, Na_2HNO_4, K_2HNO_4, Na_3HNO_3, and K_3HNO_3. KOH and $NaNO_3$ (or NaOH and KNO_3) do not react with each other but form a series of solid solns. Vapors of KOH and $NaNO_3$ (or KOH and $NaNO_3$) enter into an exchange reaction. Pure NaOH, m. 321 ± 1°, and KOH, m. 404 ± 1°, were obtained by action of H_2O on the metals.

Eurilla Mayerle

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Nondiagonal irreversible mutual system of fluorides and chlorides of lithium and strontium. [illegible] Vrak [illegible] was studied. The eutectic point [illegible] The diagram of the [illegible] was detd. Neither [illegible] The eutectic point [illegible] form a congruent [illegible] at 740° and 10.5% [illegible] The liquids in the system of fluorides and chlorides of Li and Sr was studied. The diagram of this liquidus is considered in connection with the character of reaction of the salts at crystn. System Li, Sr||F, Cl is the first and simplest example of a completely irreversible mutual system of the nondiagonal type. Eurilla Mayerle.

(1)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.

Triple mutual system of sodium and potassium nitrates and nitrites. S. I. Beruf and A. G. Bergman. *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 25, 218-35(1954).—The fusibility diagram of the mutual system K, Na, NO_2, NO_3 is studied. The field corresponding to compd. $NaNO_3.NaNO_2$ extends deep inside the diagram. The field for compd. $NaNO_3.KNO_3$ is more developed than in the system of nitrates alone; nitrites probably increase the stability and the temp. of formation. Another inner field probably represents a triple compd. whose compn. is expressed approx. by $KNO_3.KNO_2$. An approx. scheme of triangulation of the system is given.

Eurilla Mayerle

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Complex formation in a mutual system of chlorides and [illegible] of lithium and potassium. E. K. Asarov and A. [illegible] Bergman. Izvest. Sektora Fiz.-Khim. Anal., Inst. [illegible] Akad. Nauk S.S.S.R. 25, 255-62 [illegible] Tsimbrovskaya, C.A. 28, 2003[illegible]. System [illegible] system [illegible] The section Li_2SO_4-K_2SO_4-K_2Cl_2 [illegible] double system with a primary eutectic [illegible] that exceeds the temp. of the primary point [illegible] of the stable diagonal section Li_2SO_4-K_2Cl_2. The [illegible] melting compd. $2Li_2SO_4$-K_2SO_4, lithium langbeinite, is formed. Homeomorphic conversion of Li_2SO_4-[illegible] and of LiCl occurs at 646° and 565°, resp. Crests of field of crystn. of stable components K_2Cl_2 and Li_2SO_4 [illegible] are diverted from stable section Li_2SO_4-K_2Cl_2 [illegible] Li_2SO_4-K_2SO_4 intersects [illegible] of KCl and Li_2SO_4. [illegible] diagram of the system [illegible] Purilla Mayer

Acad Sci USSR

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

6

Stable section Li_2SO_4-Na_2Cl_2-K_2Cl_2 of quadruple mutual system of chlorides and sulfates of lithium, sodium, and potassium. [illegible]

1

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

7

Complex formation in a quaternary reciprocal system of chlorides, sulfates, and tungstates of lithium and potassium. A. G. Bergman, A. I. Kislova, and V. I. Posypalko (Agr. Inst., Krasnodar). Zhur. Fiz. Khim. 28, 1489-96 (1954). cf. C.A. 49, 7350a.—The fusion curves for the system Li^+, K^+||Cl^-, SO_4^{--}, WO_4^{--} show that 2 complex compds. $Li_2WO_4.K_2WO_4$ and $Li_2SO_4.K_2SO_4$ are formed. The crystn areas are analyzed in detail. J. Rovtar Leach

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Bergman, A. G.

Relation of the sulfates of lithium, sodium [illegible] and thallium [illegible]

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

The quaternary reciprocal system of chlorid[illegible]

M.p. curves of the two-component systems Li_2SO_4, [illegible] and Li_2SO_4–K_2SO_4 were defined more accurately.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

systems. The method proved feasible in studies

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

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

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14695

Author : D. S. Lesnykh, A. G. Bergman
Inst : Rostov on The Don University
Title : On The Problem Concerning Stratification in Fused Chlorides and Sulfates of Monovalent and Bivalent Metals

Orig Pub: Uch. zap. Rost. n/D un-ta, 1954, t. 20. Trudy khim. fak., vyp. 6, 19-31

Abstract: The liquidus graphs of the irreversible reciprocal system Li, Pb // Cl, SO_4 and of the diagonal sections of the systems Li, Cd // Cl, SO_4; Li, Ag // Cl, SO_4, Li, Ca, Cl // Cl, SO_4 and Li, Sr // Cl, SO_4 were studied by the visual-polythermal method. Basing on the obtained data, as well as on data found in the bibliography, the conclusion was arrived at that the stratification in the melted state takes place mainly in systems containing cations with an 8-electron or 2-electron exterior layer,

Card 1/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Singular irreversibly reciprocal system, with thallication, of chlorides and sulfates of lithium and thallium. A. G. Bergman and M. L. Sholokhovich (State Univ., Rostov-on-Don). *Zhur. Obshchei Khim.* 25, 451-5(1955); *J. Gen. Chem. U.S.S.R.* 25, 423-7(1955)(Engl. translation).—The crystn. surface of the system consists of 5 fields, LiCl, TiCl, Li_2SO_4, Tl_2SO_4, and $Li_2SO_4 \cdot Tl_2SO_4$, and contains 3 nonvariant points; eutectic E_1, m.p. 328°, 65% Tl_2Cl_2, 34% Li_2Cl_2, 1% Li_2SO_4, with LiCl, TiCl, and Li_2SO_4 as equil. phases; eutectic E_2, m.p. 330°, 60% Tl_2Cl_2, 3% Li_2SO_4, 31% Tl_2SO_4, with TiCl, Tl_2SO_4, $Li_2SO_4 \cdot Tl_2SO_4$ as equil. phases; transition point P, m.p. 338°, 68% Tl_2Cl_2, 2% Li_2SO_4, 30% Tl_2SO_4, with TiCl, Li_2SO_4, $Li_2SO_4 \cdot Tl_2SO_4$ as equil. phases. The diagonal section Li_2SO_4-Tl_2SO_4 is the stable section of the system. The double salt normally melting without decompn. melts with decompn. in the system. The stratification lens is located along the stable diagonal and occupies 51.7% of the area between 4 and 92.59% Li_2SO_4 on the diagonal and covers 2 crystn. fields, Li_2SO_4 and $Li_2SO_4 \cdot Tl_2SO_4$. The lens is asym. The ridge in crystn. area $Li_2SO_4 \cdot Tl_2SO_4$ becomes polysingular on lowering of temp.

V. N. Bednarski

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

Irreversibly reciprocal system of chlorides and sulfates of lithium and strontium. M. S. Golubevs and A. G. Bergman (State Univ., Rostov-on-Don). *Zhur. Obshchei Khim.* 25, 458-63(1955); *J. Gen. Chem. U.S.S.R.* 25, 427-32 (1955)(Engl. translation).—The system is irreversibly reciprocal without complex formation. According to the magnitude of the thermal effect (0.47 kcal./g. equiv.) the system should be reversible, but exptl. data are to the contrary. There is also a discrepancy between the direction of exchange reaction shift and thermal effect. The exptl. shift is in the direction of $SrSO_4$-LiCl. There is great similarity to the Li, Cs||Cl, SO_4 system because of similar ionic radii, charges, and structure of electron layers.

V. N. Bednarski.

2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Bergman, A. G.

Ternary mutual system of sulfates and tungstates of lithium and potassium. A. G. Bergman and A. I. Kislova. J. Gen. Chem. U.S.S.R. 25, [illegible] (Engl. translation).—See C.A. 49, 15590a. B. M. R.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.

Ternary mutual system of sulfates and tungstates of lithium and potassium. A. G. Bergman and A. I. Kislova (State Univ., Rostov-on-Don). *Zhur. Obshchei Khim.* 25, 800-6(1955); cf. *C.A.* 49, 10334a.—Melting (crystn.) points of 2-, 3-, and 4-component mixts. of the four salts in varying proportions are represented by a photograph of a 3-dimensional diagram of compn. and a square contoured projection of this diagram; diagonal and other sections of the diagram are also given, with tables of section data. The two sections representing varying proportions of $Li_2WO_4.K_2WO_4$ to $Li_2SO_4.K_2SO_4$ and Li_2WO_4 to $Li_2SO_4.K_2SO_4$ are stable; all other sections are metastable. Reactions in the system tend toward the formation of $Li_2SO_4.K_2SO_4$ and $Li_2WO_4.K_2WO_4$. The system has 4 nonvariant points of compn., whose temp., mole % Li_2WO_4, % K_2SO_4, % K_2WO_4, and % Li_2SO_4 are, resp.: 480°, 20, 20, —, 60; 484°, 30, —, 37.5, 32.5; 486°, 47, 37.5, 15.5, —; 526°, 42, 37.5, 20.5, 2. The first three are eutectics, and the fourth is a transition point. Malcolm M. Anderson

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.

The reciprocal system of iodides and nitrates of silver and sodium. M. A. Zakharchenko and A. G. Bergman. Polytech. Inst., Novocherkassk. Zhur. Obshchei Khim. [illegible] 86[illegible]-75 (1956). —Melting (crystn.) [illegible] ponent mixts. of the 4 salts [illegible] from 0 to 100% are represented by a square [illegible] compn. with contours of temp., by various sections [illegible] this, and by tables of section [illegible] section $NaNO_3$-AgI, a system in which the salts are [illegible] insol. in the liquid state, is stable. $AgNO_3$-NaI is not [illegible] diagram has 6 fields of crystn., mainly defined by 2 [illegible] straight lines, on either side of the "ridge" of mix[illegible] (554°) along the diagonal $NaNO_3$-AgI, and by two straight lines radiating from the $NaNO_3$ corner to the side [illegible] AgI. All these lines inclose 64.3% of the area; the compds. $AgNO_3$.AgI and $2AgNO_3$.AgI each represent [illegible] The stratified appearance results from the high heat of reaction (28.38 kcal.) and is more pronounced than in previously studied systems with Cl or Br in place of [illegible] whole system has 4 eutectics, whose [illegible] $AgNO_3$, $NaNO_3$, AgI and NaI are resp. [illegible] —, 102°, 55, 1.5, 43.5, —, 98°, 40.25, 0.75, [illegible] 286°, —, 85.5, 0.5, 14.0. Malcolm M. [illegible]

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMANN A.G.

The phenomenon of secondary periodicity in the alkaline earth group of elements. A. G. Bergman and N. A. Bychkova (State Univ., Rostov-on-Don). Zhur. Obshchei Khim. 25, 1041-3(1955).—This group is divided into two subgroups, (1) Ca and Ba, and (2) Mg and Sr, on the basis of their salt formation. With SiO_2, Mg and Sr form only two types of silicates: $MO \cdot SiO_2$ and $2MO \cdot SiO_2$ (M = metal). Ca and Ba each form these types plus 2 more. It is thought that the ionization potentials of the elements, as deterg periodicity, do not apply to silicates because of the complex bonds formed. With KCl, Ba and Ca each form only one double salt ($MCl_2 \cdot KCl$), while Mg and Sr each form two ($MgCl_2 \cdot KCl$, $MgCl_2 \cdot 2KCl$, $2SrCl_2 \cdot KCl$, $SrCl_2 \cdot 2KCl$). The reason for this is not clear. Malcolm Anderson

CH.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.

Solubility of nitrates and chlorides of barium and calcium in the reciprocal system at 80, 100, and 120°. L. N. Usoenskaya and A. G. Bergman (State Univ., Rostov-on-Don). *Zhur. Obshchei Khim.* 25, 1277-81(1955).—Isothermal soly. curves were obtained by the visual polythermal method of Akhmanov and Vasil'ev (C.A. 27, 4994) for the following systems: (I) $Ba(NO_3)_2$-$BaCl_2$-H_2O, (II) $Ba(NO_3)_2$-$Ca(NO_3)_2$-H_2O, (III) $CaCl_2$-$BaCl_2$-H_2O. The compn. (in mol. %) of eutectic solns. for I at 80° was 26.0 $Ba(NO_3)_2$, 74.0 $BaCl_2$, 1600.0 H_2O (moles/100 moles of dry salts) with $Ba(NO_3)_2$ and $BaCl_2.H_2O$ in the solid phase, at 100° $Ba(NO_3)_2$ 28.5, $BaCl_2$ 71.5, H_2O 1320.0; at 120°, 30.0, 70.0, and 1180.0, resp. The solid phase at 100° and 120° isotherms consisted of $Ba(NO_3)_2$ and $BaCl_2$. The eutectic of II contained at all 3 temps. $Ba(NO_3)_2$ <0.10, $Ca(NO_3)_2$ >99.90, and H_2O <142.3, <140.0, <137.9 at 80, 100, and 120°, resp. The solid phase of these isotherms was composed of $Ba(NO_3)_2$ and $Ca(NO_3)_2$. The eutectic of system III had $CaCl_2$ >99.90 and $BaCl_2$ <0.10 throughout the studied isotherms. At 80° it contained 587.50 H_2O and had $CaCl_2.H_2O$ + $BaCl_2.H_2O$ in the solid phase. At 100° there was 550.53 and at 120° 512.83 of H_2O with $CaCl_2$ + $BaCl_2$ in the solid phase. A practical aspect of these new data is the fact that $Ca(NO_3)_2$ and $CaCl_2$ are excellent salting-out agents for $Ba(NO_3)_2$; e.g. an isothermic soln. of $BaCl_2$, $Ca(NO_3)_2$, and $CaCl_2$ at 80-120° contained from 1.66 to 1.76 of $Ba(NO_3)_2$ and 15.84-16.74 $Ca(NO_3)_2$. Tables, graphs, and phase diagrams. A. P. Kotloby

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Bergman, A. G.

Complex formation and double decomposition in a reciprocal system of fluorides and sulfates of lead and sodium. V. A. Gladushchenko and A. G. Bergman. Zhur. Chem. U.S.S.R. 25, 1611-15(1955)(Engl. translation).—See C.A. 50, 5386e. B. M. R.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Bergman, A.G.

8

Mutual solubility of salts in a system of chlorides and nitrates of barium and calcium from the freezing point up to [illegible] (translation).—See C.A. 50, 5385[illegible]. [illegible]

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

GLADUSHCHENKO, V.A.; BERGMAN, A.G.

Complexing and exchange decomposition in the reciprocal system of lead and sodium fluorides and sulfates. Zhur.ob.khim. 25 no.9: 1651-1658 S '55. (MLRA 9:2)

1.Novocherkasskiy politekhnicheskiy institut.
(Lead salts) (Sodium salts) (Compounds, Complex)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

USPENSKAYA, L.N.; GLUSHKOVA, N.P.; BERGMAN, A.G.

Reciprocal solubility of salts in the system of barium and calcium chlorides and nitrates at temperatures from complete freezing to + 60°. Zhur.ob.khim. 25 no.9:1658-1673 S '55. (MIRA 9:2)

1.Rostovskiy-na-Donu gosudarstvennyy universitet.
(Barium salts) (Calcium salts)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

Chem

The ternary reciprocal system of lithium and calcium fluorides and silicates. A. G. Bergman and N. A. Bychkova. *J. Gen. Chem. U.S.S.R.* 23, 1821 [illegible] translation).—See C.A. 50, 6168e.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Bergman, A.G.

4

Exchange decomposition in the absence of a solvent

Phase diagram of the system [illegible]

[illegible]

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Bergman, A. G.

Solubility isotherms of the system Na^+-K^+-Cl^--NO_3^--H_2O. L. N. Uspenskaya, and A. G. Bergman (State Univ. Rostov-on-Don). *Zhur. Obshchei Khim.* 25, 2025-38(1955).—Soly. detns. on 3-component systems KNO_3-KCl-H_2O, $NaCl$-$NaNO_3$-H_2O, and $NaCl$-KNO_3-H_2O show lack of chem. interactions and allow the construction of soly. isotherms (80°, 100°, and 125°) for the 4-component system Na^+-K^+-Cl^--H_2O-NO_3^-. Expt. details are not given.

Ivan Pascal

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

608

Exchange decomposition in the absence of a solvent. Phase diagram of the system $Li^+-K^+-WO_4^{--}-BO_3^-$. A. G. Bergman, A. I. Kisova, and V. I. Posypaiko (State Univ., Rostov-on-Don). *Zhur. Obshchei Khim.* 25, 2044-53(1955). --Analysis of the cooling curves of the binary systems $K_2(BO_2)_2-Li_2(BO_2)_2$ (3 branches, corresponding to α- and β-$Li_2(BO_2)_2$ and $K_2(BO_2)_2$ intersect at 794° and 11% $K_2(BO_2)_2$ and at 582° and 56% $Li_2(BO_2)_2$); $Li_2WO_4-Li_2(BO_2)_2$ (4 branches; α- and β-$Li_2(BO_2)_2$, compd. $3Li_2WO_4 \cdot 2Li_2(BO_2)_2$ m.p. 742° and α-$LiWO_2$; transition point 710° and 19% $Li_2(BO_2)_2$; eutectic at 686° and 8% $Li_2(BO_2)_2$, transition of α- to β-$Li_2(BO_2)_2$ at 814° and 87.5% $Li_2(BO_2)_2$); $Li_2WO_4-K_2WO_4$ (compd. $Li_2WO_4 \cdot K_2WO_4$ m.p. 628°; eutectics 550° and 33.5% K_2WO_4 and 572° and 63.5% K_2WO_4); and $K_2WO_4-K_2(BO_2)_2$ (2 branches: K_2WO_4 and $K_2(BO_2)_2$; eutectic at 803° and 40% $K_2(BO_2)_2$) allowed the construction of the phase diagram for the 4-component system $Li^+-K^+-WO_4^{--}-BO_3^-$. In this system 6 solid phases are in equil. with the melt: $K_2(BO_2)_2$, K_2WO_4, $Li_2WO_4 \cdot K_2WO_4$, Li_2WO_4 (α and β), $3Li_2WO_4 \cdot 2Li_2(BO_2)_2$, $Li_2(BO_2)_2$ (α and β). The 4-component system is characterized by the following invariant points (temps., % compn., and phases in equil. given in parentheses): Ternary eutectics E_1 (558°, 40% K_2WO_4, 5% $Li_2(BO_2)_2$, 55% Li_2WO_4; β-Li_2WO_4, β-$Li_2(BO_2)_2$, $Li_2WO_4 \cdot K_2WO_4$), E_2 (561°, 60% K_2WO_4, 4% $Li_2(BO_2)_2$, 36% Li_2WO_4; $Li_2WO_4 \cdot K_2WO_4$, K_2WO_4, β-$Li_2(BO_2)_2$), E_3 (575°; 4% K_2WO_4, 54% $Li_2(BO_2)_2$, 42% $K_2(BO_2)_2$; KWO_4, β-$Li_2(BO_2)_2$, $K_2(BO_2)_2$). Transition point P (698°, 10% K_2WO_4, 7.5% $Li_2(BO_2)_2$, 82.5% Li_2WO_4; Li_2WO_4, β-$Li_2(BO_2)_2$, $3Li_2WO_4 \cdot 2Li_2(BO_2)_2$). No exptl. details.

Ivan Pascal

RM

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

7

Complex-formation and double decomposition in the reciprocal system of chlorides and sulfates of sodium and cadmium. A. G. Bergman and K. L. Bakumskaya (Eng.-Construction Ind., Rostov-na-Don). *Zhur. Obshchei Khim.* 23, 2405-14(1955).—The following invariant compns. (mole %), together with their resp. temps. were detd. in the system Na, Cd||Cl, SO_4: P_I 44.5 Na_2Cl_2, 15.5 $CdSO_4$, 40 $CdCl_2$; equil. phases Na_2Cl_2, δ-Na_2SO_4, $2NaCl.CdCl_2$, 414°. E_{II} 37.5 Na_2Cl_2, 18.5 $CdSO_4$, 44 $CdCl_2$; equil. phases $CdCl_2$, $2NaCl.CdCl_2$, δ-Na_2SO_4, 558°. P_{III} 36.5 Na_2Cl_2, 19 $CdSO_4$, 44.5 $CdCl_2$; equil. phases $CdCl_2$, δ-Na_2SO_4, Na_2SO_4-$CdSO_4$, 382°. E_{IV} 17 Na_2Cl_2, 41.5 $CdSO_4$, 41.5 $CdCl_2$; equil. phases $CdCl_2$, $CdSO_4$, $Na_2SO_4.CdSO_4$, 475°. R_I 5.5 Na_2Cl_2, 49 $CdSO_4$, 45.5, Na_2SO_4; equil. phases β-Na_2SO_4, $3Na_2SO_4.CdSO_4$, $Na_2SO_4.3CdSO_4$, 690°. R_{II} 20.5 Na_2Cl_2, 47 $CdSO_4$, 32.5 Na_2SO_4; equil. phases $CdSO_4$, Na_2SO_4-$CdSO_4$, $Na_2SO_4.3CdSO_4$. Q 9.5 Na_2Cl_2, 45.5, $CdSO_4$, 45 Na_2SO_4; equil. phases β-Na_2SO_4, $Na_2SO_4.CdSO_4$, $Na_2SO_4.3CdSO_4$, 610°. Phase transformations in the Na_2SO_4 field were observed as follows: $\alpha \rightarrow \beta$ 758°, $\beta \rightarrow \gamma$ 604°, $\gamma \rightarrow \delta$ 550°. The system is similar to that of Na, Pb||Cl, SO_4 and differs from Na, Zn||Cl, SO_4 in that the latter forms a triple salt.

C. H. Fuchsman

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.; RASSONSKAYA, I.S.; SHMIDT, N.Ye.

Specific weights and viscosity of the ternary system of sodium, potassium, and calcium nitrates. Izv.Sekt.fiz.-khim.anal. 26:156-163 '55. (MIRA 8:9)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR. (Nitrates) (Systems (Chemistry))

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

62

A visual-polythermic method for the investigation of silicate systems. A. G. Bergman, A. K. Nesterova and N. A. Bychkova (V. M. Molotov State Univ., Rostov-on-Don). *Doklady Akad. Nauk S.S.S.R.* 101, 483-6 1955. For the investigation of rapidly crystallizing silicate systems, e.g. with fluorides, and other highly mineralizing agents which are not easily undercooled to glasses, the direct microscopic observation of the crystn. temps. is recommended. The formation of primary crystals, and their disappearance with cooling and heating of the fused mixes, has been observed previously for tetrabiorates and metaphosphates. Phase equil. diagrams are given for the systems Li_2SiO_3-Na_2SiO_3, Na_2SiO_3-P_2SiO_4, Li_2SiO_3-$CaSiO_3$, Li_2SiO_3-$BaSiO_3$, Li_2SiO_3-K_2SiO_3, Li_2SiO_3-Li_2F_2, Na_2SiO_3-Na_2F_2, Na_2SiO_3-Na_2SO_4, K_2SiO_3-K_2F_2, $BaSiO_3$-BaF_2, and the reciprocal systems $BaSiO_3$-Na_2F_2, $BaSiO_3$-$Na_4P_2O_7$, $BaSiO_3$-Na_2SO_4, $BaSiO_3$-Na_2WoO_4, $BaSiO_3$-Na_2MoO_4, $BaSiO_3$-Na_2VO_3. The polymorphism of Li_2SiO_3 and the formation of the incongruent compds. $Li_2SiO_3.2Na_2SiO_3$ and $2Li_2SiO_3.Na_2SiO_3$ were directly observed. Many special eutectic data are given which correct previous observations obtained by the quenching or thermal-analysis methods. The congruent compd. $Li_2SiO_3.3K_2SiO_3$ (m. 85[illegible]°) and the incongruent compd. $3Li_2SiO_3.2K_2SiO_3$ are new, as are Li_2SiO_3-2LiF (incongruent m.p. 952°), $BaSiO_3.2BaF_2$ (incongruent point 1000°). A comparison is given of these $BaSiO_3$ systems with analogous systems with $BaTiO_3$ which are important for the primary crystn. of titanate from salt-melt solns. (cf. Sholokhovich and Belyaev, *C.A.* 49, 8024[illegible]). W. Ritel

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 22 - 20/49

Authors : Akopov, Ye. K., and Bergman, A. G.

Title : Complex formation between lithium, sodium and potassium sulfates and chlorides in fusions

Periodical : Dok. AN SSSR 102/1, 81-83, May 1, 1955

Abstract : Visual-polythermal investigation was conducted of sulfates and chlorides of Li, Na and K to determine the complex formation between these compounds. The data pertaining to the Li, Na || Cl, So^4 system show new essential changes in the isomorphism of Li and Na salts. It was found that isomorphism does not exist between these substances and the ion radii are also different. The properties of the complex incongruent compounds formed between these substances during fusion are described. Seven references: 4 USSR and 3 German (1907-1949). Diagrams.

Institution : The Kuban Agr. Inst. and the Rostov State Univ. im. V. M. Molotov

Presented by : Academician S. I. Vol'fkovich, January 1, 1955

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

USSR/Chemistry - Alkali metals

Card 1/1 Pub. 22 - 24/45

Authors : Sholokhovich, M. L.; Lesnykh, D. S.; Bukhalova, G. A.; and Bergman, A. G.

Title : Stratification in fusions of mutual systems with participation of salts of first and second groups

Periodical : Dok. AN SSSR 103/2, 261-263, Jul 11, 1955

Abstract : Experiments conducted with Na, Cs, Li and other metal systems showed that one of the conditions leading to stratification during the fusion of these elements is the greater difference in the polarizability of the [illegible] and anions of the components. The most vivid difference in the [illegible] was established among ions with 8 or 2 external electron layers and ions with external electron structure consisting of 18 or 18 plus 2 electrons. The effect of fluorides on the prevention of stratification in liquid [illegible] is explained. Nine USSR references (1929-1946). Graphs.

Institution : Rostov/Don State University im. V. M. Molotov

Presented by : Academician I. I. Chernyayev, May 13, 1955

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

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

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14697

Author : Ye. K. Akopov, A. G. Bergman
Inst : -
Title : Quaternary Reciprocal System of Lithium, Sodium and Potassium Chlorides and Sulfides. Report 1

Orig Pub: Zh. obshch. khimii, 1955, 25, vyp. 1, 3-12

Abstract: Liquidus graphs of two systems: Na_2SO_4-Li_2SO_4-K_2Cl_2 (I) and Li_2SO_4-K_2SO_4-Na_2Cl_2 (II) were studied by the visual-polythermal method. These systems are interior instable sections of the quaternary reciprocal system Li, Na, K // Cl, SO_4. The binary compound $2Li_2SO_4 \cdot K_2SO_4$ melting and dissociating at 550° was disclosed. The composition of the quaternary transition point of the system Li, Na, K // Cl, SO_4 (section II) corresponds to 24 percent of Na_2Cl_2, 51 percent of Li_2SO_4, 25 percent of K_2SO_4, the temperature is 436°.

Card 1/1

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

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

Abs Jour: A. G. Bergman, Ye. L. Bakumskaya
Inst : -
Title : Formation of Complexes and Double Decomposition in Mutual System of Chlorides and Sulfates of Sodium and Cadmium.

Orig Pub: Zh. obshch. khimii, 1955, 25, No 13, 2405-2414

Abstract: The system Cd, Na // Cl, SO_4 studied by the visual-polythermal method refers to the class of reversible reciprocal adiagonal systems. The reciprocal system has 8 basic crystallization fields: Na_2Cl_2,$CdCl_2$, $CdSO_4$, Na_2SO_4, $2NaCl.CdCl_2$, $Na_2SO_4.CdSO_4$, $Na_2SO_4.3CdSO_4$ and $3Na_2SO_4.CdSO_4$. The composition and temperature of non-variant points are given. The reactions taking place in the system are expressed by following equations: $2Na_2Cl_2 + CdSO_4 = Na_2Cl_2.CdCl_2 + Na_2SO_4$; $Na_2Cl_2 + 2CdSO_4 = CdCl_2 + Na_2SO_4.CdSO_4$; $Na_2Cl_2 + CdSO_4 = Na_2SO_4 + CdCl_2$. Contrarily to earlier data (Calçagni, Marotta, Gazz, 1914, 44, No 1, 487), an additional transformation was estab-

Card 1/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

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

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14694

Abstract: lished at 736° and 43.5 percent of $CdSO_4$ in the system Na_2SO_4-$CdSO_4$ corresponding to the formation of $3Na_2SO_4$. -$CdSO_4$.

Card 2/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G. LESNYKH, D.S. and SEMENTSOVA, A.K.

"Complex Formation and Double Decomposition in the Mutual System Composed of Chlorodes and Sulfates of Thallium and Cadmiumn" Zhur. Neorgan. Khim. 1, No 1, 1956 p. 163-169

Rostov-on Don State University im. V.M. Molotov

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

USSR/Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical Analysis. Phase Transitions, B-8

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 371

Abstract: and 75 mole percent III. In the system I-PbF_2(IV) a eutectic point has been found at 460° and 57.5 mole percent IV, and in the system III-IV, at 250° and 23.5 mole percent III. A eutectic with constant diagonal cross-section II-IV corresponding to a temperature of 480° and 22.5 mole percent II has been established. The surface of the liquid phase of the system K, Pb // F, SO_4 consists of 7 crystallization areas, for one of which the composition of the corresponding compound has not yet been established. Six invariant points have been established: E_1 at 440° (55 percent IV, 2.5 percent III, and 42.5 percent I); E_2 at 440° (63 percent IV, 12 percent III, and 25 percent II); E_3 at 420° (62 percent IV, 26 percent III, and 12 percent II); P_1 at 470° (53.5 percent IV, 7 percent III, and 39.5 percent I); P_2 at 642° (25 percent IV, 35 percent III, and 40 percent II); and P_3 at 594° (40 percent IV, 40 percent III, and 20 percent II). The authors note that substitution of the Cl^- for the F^- ion leads to an increase in the number of compounds formed by the system.

Card 2/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions.

B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29944

Author : Bychkova N. A., Bergman A. G.
Inst : not given
Title : Mutual System of Silicates and Fluorides of Lithium and Barium.

Orig Pub: Zh. obshch. khimii, 1956, 26, No 3, 639-651

Abstract: A study of the system Li, Ba || F, SiO_3. Surface of crystallization consists of 11 fields, 3 eutectic, 5 non-variant transition points and one passage point. Most probable composition of the compounds are assumed to be $2LiF.Li_2SiO_3.5BaF_2$ and $2BaF_2.Li_2SiO_3.BaSiO_3$. Conditional thermal effect of exchange reaction, equal to 3.75 kcal-equivalent toward the BaF_2 - Li_2SiO_3 pair, does not determine the direction of the reaction because of the extensive complex-formation within the system. The visual-polythermal method is recommended for the study of silicate and silicate-salt systems.

Card : 1/1

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, AG.

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions. B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29942

Author : Bakumskaya Ye. L., Bergman A. G.
Inst : not given
Title : Ternary System of the sulfates of Sodium, Potassium and Cadmium

Orig Pub: Zh. neorgan. khimii, 1956, 1, No 5, 1035-1041

Abstract: The ternary system of Na_2SO_4 (I) - K_2SO_4 (II) - $CdSO_4$ (III) has been studied by the visual-polythermal method. The formation was ascertained of two compounds, of composition 3:1 and 1:3 of the binary system I - III, which melt with decomposition, respectively, at 736° and 43.5% III, and 746° and 29.5% I. In the ternary system I-II-III a study has been made of 18 internal sections. Surface of liquidus represents 7 fields: solid solutions of I-II, pure III, and five compounds, the fields of which occupy up to 30.62% of the area. In the system is found a single, triple eutectic point at

Card : 1/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions.

B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29942

578° and 39% I, 18% II and 43% III, and five singular points. The assumption is made of the existence of an internal field of crystallization of a compound of supposed composition $2Na_2SO_4 \cdot K_2SO_4$, which is formed on decomposition of solid solutions of the sulfates of sodium and potassium, at 712°. The formation of this compound had already been reported before (RZhKhim, 1955, 25777). Ternary internal compound is absent. Triple eutectic point is lower by 306° than the melting point of the lowest-melting component -- I, which indicates the stability of complexes the fields of which converge at the triplepoint.

Card : 2/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BAKUMSKAYA, Ye.L.; BERGMAN, A.G.

Ternary system of lithium, sodium, and cadmium sulfates.
Zhur.neorg.khim. 1 no.7:1629-1637 Jl '56. (MLRA 9:11)

1. Rostovskiy-na-Domu inzhenerno-stroitel'nyy institut.
(Sulfates)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

USSR/Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical Analysis. Phase Transitions, B-8

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 372

Abstract: that complex formation in water solution is weakened by the chemical activity of water.

Card 2/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physicochemical analysis. Phase transitions B-8

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11183

Author : Bergman A.G., Bakumskaya Ye.L.

Title : Exchange Decomposition, Complex-Formation and Polymorphism in Adiagonal Mutual System of Chlorides and Sulfates of Potassium and Cadmium.

Orig Pub : Zh. obshch. khimii, 1956, 26, No 3, 629-638

Abstract : Study of the mutual system K, Cd Cl, SO_4 (I). In the investigated binary systems K_2Cl_2-K_2SO_4 and K_2SO_4-$CdSO_4$ was revealed an additional transformation of K_2SO_4 at 856° the nature of which was not elucidated. In the K_2Cl_2-$CdCl_2$ system was ascertained a transformation of the complex $4KCl.CdCl_2$ at 392°. Fusibility diagram of mutual system I consists of eight basic crystallization fields converging at six non-variant points. In K_2SO_4 and $K_2SO_4.2CdSO_4$ fields are differentiated areas of α -, β-, γ - and α -, β -modifications. Complex formation in system I supresses the exchange reaction of low relative thermal effect. In accord with previously made deductions (Dombrovkaya O.S., Izv. sektora fiz.-khim. analiza IONKh AN SSSR, 1941, 14, 106) mutual system I is considered to

Card 1/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physicochemical analysis. Phase transitions B-8

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11183

appertain to adiagonal semireversible system of zonal type. In contradistinction to the K, Zn Cl, SO_4 system (RZhKhim, 1954, 33878) no internal heterocompounds are formed in system I.

Card 2/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BYCHKOVA, N.A.; BERGMAN, A.G.

Reciprocal system of lithium and barium silicates and fluorides. Zhur.ob.khim. 26 no.3:639-651 Mr '56. (MLRA 9:8)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.
(Lithium salts) (Barium salts)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

RUBLEVA, V.V.; BERGMAN, A.G.

Equilibrium diagram for the system: Na_2Cl_2 — K_2Cl_2 — $CaSO_4$.
Zhur.ob.khim. 26 no.3:651-655 Mr '56. (MLRA 9:8)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.
(Chlorides) (Calcium sulfate)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

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

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14692

Author : A. K. Sementsova, A. G. Bergman
Inst : -
Title : Ternary System of Five Ions Na_2Co_3-K_2Cl_2-K_4SO.

Orig Pub: Zh. obshch. khimii, 1956, 26, No 4, 922-996

Abstract: The fusibility graph of the ternary system Na_2Co_3-K_2Cl_2-K_2SO_4 (I) was studied by the visual-polythermal method; this graph appears as a stable diagonal section of the quaternary reciprocal system of Na, K // Cl, SO_4 and CO_3 with a treble eutectic point at 546° corresponding to the composition 31 percent of K_2Cl_2, 44.5 percent of K_2SO_4 and 24.5 percent of Na_2CO_3. The crystallization area of the system I consists of three fields: K_2SO_4, K_2Cl_2 and Na_2CO_3. The field Na_2CO_3 is divided into the sections of the α-, β- and γ-modifications separated by the isotherms of 640 and 604°. The field K_2SO_4 is

Card 1/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

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

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14696

Author : I. I. Il'yasov, A. G. Bergman
Inst : -
Title : Reciprocal System of Potassium and Lead Chlorides and Iodides with Interior Heterocomplex

Orig Pub: Zh. obshch. khimii, 1956, 26, No 4, 981-991

Abstract: The fusibility graph of the reciprocal system K, Pb // Cl, I (I) was studied. A complex in the form of a binary compound (surmised composition $PbI_2 \cdot KCl$) was detected on the stable diagonal $KCl-PbI_2$ of the system I. The presence of the complex $PbCl_2 \cdot PbI_2$ fusing without decomposition was established in the system $PbCl_2-PbI_2$. The system I is divided into 8 phase triangles by the triangulating diagonal section $PbI_2-K_2Cl_2$ and 6 adiagonal secants. The liquidus area consists of 9 fields and one additional field dependent on the presence of PbI_2

Card 1/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

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

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14696

Abstract: polymorphism. Metathesis predominates over complex formation in the studied system. The system I was referred to irreversible reciprocal systems with interior incongruent heterocompounds.

Card 2/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions.

B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29946

Author : Il'yasov I. I., Bergman A. G.
Inst : not given
Title : Irreversibly-Mutual System of Chlorides and Iodides of Sodium and Camium.

Orig Pub: Zh. obshch. khimii, 1956, 26, No 5, 1288-1296

Abstract: Study of the mutual system Na, Cd // Cl, I. The stable diagonal section is Na_2Cl_2 - CdI_2; the subordinate, adiagonal, triangulating secant is Na_2Cl_2 - CdI_2 . 2NaI. Positive conditional thermal effect of reaction, equal to 6.7 kcal/equivalent, indicates the irreversible nature of exchange reaction in the system. There is confirmed the formation of the previously ascertained compound $CdCl_2$. 2NaCl, which melts with decomposition; transition point at 433° and 37.5% Na_2Cl_2. There was ascertained a compound CdI_2 . 2NaI, melting with

Card : 1/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions.

B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29946

decomposition; transition point at 371° and 39% NaI. The paper includes diagrams of state of the systems and tables of experimental data, as well as statements concerning the composition of invariant points and the nature of the phases.

Rostov-On-Don State Univ.

Card : 2/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Bergman A. G.

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

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18540

Author : M.N. Kuznetsova, A.G. Bergman.

Title : Physical-Chemical Analysis of Interaction of Amines and Acids. III. Thermal Analysis of Ternary System Urea - Formic Acid - Water.

Orig Pub : Zh. obshch. khimii, 1956, 26, No 5, 1326-1335

Abstract : The system $CO(NH_2)_2$ (I) - HCOOH (II) - H_2O (III) and binary system I - II were studied by the method of thermal analysis; the presence of combinations of I with II of the composition 1 : 2 (IV), melting point -11.5°, and 1 : 1 (V) with a transition point at -3° and 44.5 mol. % was established. The cause which had not allowed the authors to detect the compound (V) earlier (report II, Zh. obshch. khimii, 1939, 9, 637) was disclosed. An

Card 1/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

KUZNETSOVA, M.N.; BERGMAN, A.G.

Physicochemical analysis of the interaction of amines with acids. Parts 4. Thermal analysis of the ternary system: urea - water - - butyric acid. Zhur.ob.khim. 26 no.5:1335-1340 My '56. (MIRA 9:9)

1.Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti.

(Urea) (Butyric acid)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-Chemical Analysis. Phase Transitions. B-8

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26147

Author : D.S. Lesnykh, A.G. [illegible]

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-Chemical Analysis. Phase Transitions B-8

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26147

MoO_4 - Ag_2WO_4 with the transition point at 460° and 67.5% of Ag_2WO_4 were also studied. There is no stratification in both these cases.

Card : 2/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

The reaction between [illegible] the absence of a solvent [illegible] and N. [illegible] Bukun [illegible] Cerasel Khim. 25, 2073-[illegible] system [illegible] MoO_3 [illegible] thermal methods. The diagram [illegible] local system [illegible] and tungstate [illegible] same [illegible] compn. reactions [illegible] with an increase [illegible]

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.

ZAKHARCHENKO, M.A., dots., kand. khim. nauk; BERGMAN, A.G., prof., doktor khim. nauk.

The irreversibly mutual singular system with cleavage of silver and sodium bromides and nitrates. Trudy NPI 27:19-32 '56. (MIRA 10:12)

1. Kafedra obshchey i neorganicheskoy khimii Novocherkasskogo politekhnicheskogo instituta.

(Systems (Chemistry))

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A. G.

GLADUSHCHENKO, V.A., assistent, kand. khim. nauk; BERGMAN, A.G., prof., doktor khim. nauk.

The irreversibly mutual system of lithium and lead fluorides and sulfates. Trudy NPI 27:49-60 '56. (MIRA 10:12)

1. Kafedra obshchey i neorganicheskoy khimii Novocherkasskogo politekhnicheskogo instituta.
(Systems (Chemistry))

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

Bergman A.G.

USSR/Thermodynamics - Thermichemistry. Equilibria. B-8
Physical-Chemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18487

Author : A.G. Bergman, K.A. Yevdokimova, O.F. Bogush.
Inst : Institute of Organic and Inorganic Chemistry of Academy of Sciences of USSR.
Title : List of Salt Systems (Anhydrous, Studied by Method of Thermal Analysis).

Orig Pub : Izv. Sektora fiz.-khim. analiza IONH AN SSSR, 1956, 27, 419-456

Abstract : The list comprises Russian works (mainly of N.S. Kurnakov's school) published up to 1953 inclusively and, besides, those which were published in volumes 25, 26 and 27 of the News of the Sector of Physical-Chemical Analysis of IOIC of AS of USSR in 1954 to 1956. Systems composed of sulfides, silicates, metal and salt and high-melting oxides (with the exception of B_2O_3) are not contained. Bibliography of 187 titles.

Card 1/1 - 168 -

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.; YEVDOKIMOVA, K.A.

Reciprocal systems of sodium and potassium acetates and nitrites, and acetates and nitrates. Izv.Sekt.fiz.-khim.anal.27:296-314 '56. (MIRA 9:9)

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

(Sodium salts) (Potassium salts)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

BERGMAN, A.G.; YEVDOKIMOVA, K.A.; BOGUSH, O.F.

Index of salt systems; anhydrous, studied by means of thermal analysis. Izv.Sekt.fiz.-khim.anal. 27:419-456 '56. (MIRA 9:9)

1.Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova AN SSSR.
(Salts--Indexes)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000204910019-5"