"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, BORIS BORISOVICH

ZAKANDIN, Viktor Il'ich; PEREL'MAN, Boris Borisovich; LIKHTGEYM, M.P., red.; MASLOV, N.A., red.izd-va; LAGUTINA, I.M., tekhn.red.; TOKER, A.M., tekhn.red.

[Economic accountability for job superintendents and foremen; practices of the Cherepovets Metallurgical Building Trust of the Ministry of Metallurgical and Chemical Plant Construction of the U.S.S.R.] Khozialstvennyi raschet proizvoditelia rabot i mastera na stroiuchastke; opyt raboty tresta Cherepovetsmetallurgstroi Ministerstva stroitel'stva predpriiatii metallurgicheskoi i khimicheskoi promyshlennosti SSSR. Moskva, Gos. izd-vo lit-ry po stroit. i arkhit., 1957. 59 p. (MIRA 11:5)

(Construction industry--Accounting)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, D.I., inzh.

Device for pressing finned tubes. Khol.tekh. 40 no.2:49 Mr-Ap '63. (MIRA 16:4)

(Refrigeration and refrigerating machinery--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

ANDRACHNIKOV, Ye.I.; KAPLAN, L.G.; PEREL'MAN, D.I.

Particular aspects of the assembling of AKFV-12 (AK2FV-30/15) refrigerating machines at retail trade and catering industry enterprises. Khol. tekh. 38 no. 1:49-53 Ja-F '61. (MIRA 14:4)
(Refrigeration and refrigerating machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PERELMAN, E. P.

M. N. LIVANOV, J. Physiol. USSR 25, 244-8, 1938

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

The influence of tantalum on the properties of steel. N. P. Grechko and E. G. Perel'man. *Metallurg* 11, No. 12, 64-72(1936).—In amts. up to 1.5% Ta raises the critical points, increases the speed of the $\gamma \rightarrow \alpha$ transformation, produces fine grains, and improves the mech. properties.

H. W. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

1ST AND 2ND CODES

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH CODES

18.

INFLUENCE OF TANTALUM ON THE PROPERTIES OF STEEL. N. Grechko and E.G. Perelman. (Metallurgist (Russia), 1956, No. 12, pp. 64-72). The addition of tantalum raises the transformation points Ac_1, Ac_3, Ar_1, Ar_3. The Ac-Ar interval is reduced: The velocity of the decomposition of austenite is increased: the grain becomes smaller. The hardenability increases for all temperatures above 1000°C. The carbides of tantalum dissociate at about 1000-1100°. The mechanical properties of carbon steel (0·36% of carbon) are improved by the addition of about 0·4% of tantalum, those of allowed (chromium-nickel) steel remain unchanged. (In Russian).

COMMON ELEMENTS

MATERIALS INDEX

COMMON VARIABLES INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

KOTLYAR, P.S., inzh.; PEREL'MAN, B.M., inzh.; CHECHEL'NITSKIY, I.G., inzh.

Redesign of truck cranes. Bezop. truda v prom. 8 no.9:47-49 S '64 (MIRA 18:1)

1. Upravleniye Kiyevskogo okruga Gosudarstvennogo komiteta pri Sovete Ministrov UkrSSR po nadzoru za bezopasnym vedeniyem rabot v promyshlennosti i gornomu nadzoru (for Kotlyar). 2. Upravleniye spetsial'nykh mashin Glavkiyevforstroya (for Perel'man, Chechel'nitskiy).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

ACC NR: AR6034805 (N) SOURCE CODE: UR/0398/66/000/008/A022/A023

AUTHOR: Perel'man, B. S.

TITLE: Theoretical investigation of the influence of deck cuts on the rigidity of a ship's hull during torsion 24

SOURCE: Ref. zh. Vodnyy transport, Abs. 8A133

REF SOURCE: Tr. Gor'kovsk. politekhn. in-ta, v. 21, no. 1, 1965, 52-56

TOPIC TAGS: shipbuilding engineering, 14 ship component, marine equipment, ship, ship hull, rigidity

ABSTRACT: The rigidity of a closed-section thin-walled rod 26 with a rectangular cut in the middle of one of its sides is calculated according to the Vlasov-Umanskiy method. The formula determining the torsion angle along the entire length of the rod has been obtained. Calculation according to the given formula gives results that coincide favorably with the experimental data. Orig. art. has: 4 figures. Bibliography has 3 references. [Translation of abstract]

SUB CODE: 13/

Card 1/1 UDC: 629.12:624.02/09

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PETRUKHIN, Yu.M.; PEREL'MAN, D.I.

Regulator of the oil level in compressor crankcases. Khol.tekh. 42 no.2:58-60 Mr-Ap '65. (MIRA 18:5)

1. Moskovskiy remontno-montazhnyy kombinat.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, E. I.

"The Effect of Treatment of Tuberculosis with Phtyvazid"

Dneprodzerzhinsk TB Sanatorium

Comments

Sovyet Medit Vol 9, Sep 54, Moscow

K-3280, 14 Mar 55

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PERELI'MAN, E. I. PA 227T45

USSR/Geophysics - Land Improvement Jun 52

"Regional Ameliorative-Constructional Operations," E.I. Perel'man

"Gidrotekh i Melio" No 6, pp 64-74

Discusses the experiences gained in the works of the Pavlov Rayon Department of Land Improvement in Leningrad Oblast. Describes construction of reservoirs, works of dredging the Popovka riverlet, land improvement on the "Novaya Zhizn" Kolkhoz, works of transporting collectives, construction of drainage networks, clearing of underbrush, road constructions, and measures taken in the land-improvement network.

227T45

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, E.L.; SULTANOV, F.F.

Effect of overheating on changes in the content of ascorbic acid in blood and organs of albino rats. Izv. AN Turk. SSR. Ser. biol. nauk no.1:48-53 '62. (MIRA 15:3)

1. Institut zoologii i parazitologii AN Turkmenskoy SSR i Turkmenskiy meditsinskiy institut.
(ASCORBIC ACID)
(TEMPERATURE—PHYSIOLOGICAL EFFECT)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, E.L.

Effect of overheating on the succinic dehydrogenase activity in the cardiac muscle of white rats. Izv.AN Turk.SSR.Ser.biol.nauk no.3:62-65 '62. (MIRA 15:9)

1. Institut zoologii i parazitologii AN Turkmenskoy SSR.
(SUCCINIC DEHYDROGENASE) (HEAT--PHYSIOLOGICAL EFFECT)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, E.L.

Effect of overheating on the content of riboflavin in the tissues of white rats. Izv.AN Turk.SSR.Ser.biol.nauk no.3:70-73 '62. (MIRA 15:9)

1. Institut zoologii i parazitologii AN Turkmenskoy SSR.
(RIBOFLAVIN) (HEAT--PHYSIOLOGICAL EFFECT)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, E.L.; SULTANOV, F.F.

Effect of ascorbic acid on the function of the adrenal glands under the influence of high external temperature. Zdrav. Turk. 7 no.4: 3-6 Ap'63. (MIRA 16:6)

1. Iz instituta krayevoy meditsiny AN Turkmenskoy SSR (dir.- A.Kh.Babayeva) i kafedry patologicheskoy fiziologii (zav. F.F.Sultanov) Turkmenskogo gosudarstvennogo meditsinskogo instituta.

(ADRENAL GLANDS) (ASCORBIC ACID)
(HEAT--PHYSIOLOGICAL EFFECT)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, E.L.; SULTANOV, F.F.

Effect of ascorbic acid on the function of the adrenal glands under the influence of high external temperature. Zdrav. Turk. 7 no.4: 3-6 Ap'63. (MIRA 16:6)

1. Iz instituta krayevoy meditsiny AN Turkmenskoy SSR (dir.- A.Kh.Babayeva) i kafedry patologicheskoy fiziologii (zav. F.F.Sultanov) Turkmenskogo gosudarstvennogo meditsinskogo instituta.

(ADRENAL GLANDS) (ASCORBIC ACID)
(HEAT--PHYSIOLOGICAL EFFECT)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, E .L. kandidat meditsinskikh nauk

Significance of determining gases in blood from the median ulnar vein. Lab.delo no.1:8-12 Ja-Feb.'55. (MLRA 8:8)

1. Iz L'vovskogo nauchno-issledovatel'skogo instituta okhrany materinstva i detstva (dir.I.D.Yashchuk)
(BLOOD,
bases, determ in ulnar vein)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

USSR/Medicine - Typhus Mar/Apr 49
Medicine - Vaccine Therapy

"Particulars of the Course of Abdominal Typhus in Vaccinated Children," Z. A. Metlitskaya, E. N. Perel'man, Children's Propaedeutic Clinic, Second Moscow Med Inst imeni I. V. Stalin, Children's Clinical Hosp, 4 pp

"Pediatriya" No 2

Preventive inoculations for abdominal typhus do not fully guarantee immunity from the disease, but shift the clinical picture to the favorable side. In inoculated children, abdominal typhus

LC 41/49T76

USSR/Medicine - Typhus (Contd) Mar/Apr 49

is distinguished by larger number of mild forms (51.6%) and a shorter duration. It occurs in severe form in comparatively few cases (8%).

LC 41/49T76

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, E. S.

Mashinostroenie v SSSR. Moskva, Moskovskii rabochii, 1931. 103 p. illus.

Mechanical engineering in the USSR.

DLC: HD9705.R92P4

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

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PERELMAN, E. S.

[illegible] ne construction in the USSR. Moskva, Moskovskii rabochi[illegible], 1931. 103 p.
(Za tekhnicheskuiu rekonstruktsiiu) (50-42249)

HD9705.R92P4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, E. Yu.

Chemical Abstracts
May 25, 1954
Soils and Fertilizers

(3)

Determination of alkaline earth metals in soils. A. Kh. Batalin and E. Yu. Perel'man (A. A. Andreev Agr. Inst., Chkalov). *Pochvovedenie* 1953, No. 11, 97-9.—The method is a refinement of the one used by Kobell (*J. prakt. Chem.* 14, 379-80(1838)) and Döbereiner (*Ibid.* 15, 317(1838)). It consists of converting the alk. earth bases into carbonates, pptg. them first as oxalates, igniting, and treating the residue with NH_4 carbonate to obtain the carbonates. The method is described in detail.

J. S. Joffe

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

Perel'man, E. Yu.

2000

1

2098. Reaction for the cobalt cation. E. Yu. Perel'man. *Vestnik Khim. Obshch. im. D. I. Mendeleeva, Chkalovskoe Otd.*, 1954, (5), 31-33; *Ref. Zhur., Khim.*, 1955, Abstr. No. 26,467.—Stable violet-coloured complexes are given by Co^{++} and alkali-metal pyrophosphates. The reaction with $K_4P_2O_7$ is more pronounced than that with $Na_4P_2O_7$. With an excess of $K_4P_2O_7$, cations of all the analytical groups, including those of V, Ti, W, Mo, Au, Ce and Pt, give colourless solutions. Exceptions are Cu and Cr; Cu^{++} gives a deep-blue and Cr^{+++} a green colour. At high concn. Ba gives a ppt., Ni^{++} gives a yellow-green soln. With Cu^{++} and Co^{++} together the colour is blue. The limiting dilution for detection of Co is 1 in 20,400, but in the presence of 16 times as much Cu and at 70° to 80° C the limiting dilution is 1 in 84,000. Soln. of the pyrophosphate complex of Co follow Beer's law.

G. S. Smith

Chem

PM

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PROCESSES AND PROPERTIES

Ca

2

Heat of combustion of some halogen organic derivatives. I. A. KABLUKOV AND F. M. PERELMAN. *Compt. rend. acad. sci. U. R. S. S.* 1930A, 510-22. Heat of combustion was detd. for some org. chlorides and bromides as follows: $C_2H_4Cl_2$ 2072.2 ± 1.46% small cals., $CHCl_3$ 798.0 ± 1.26%, C_2H_3Cl 653.5 ± 0.2%, C_2H_5Br 1409 ± 1.30%, $CHBr_3$ 357.28 ± 1.90% and C_2H_5Br 4757.5 ± 0.80% small cals. The heat of combustion for the bromides was never detd. before. S. L. MADORSKY

ASM SEA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

A-1

[redacted]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

BC

a-1

Extension of Schreinemakers' method to multi-component systems. F. PERELMAN (Bull. Acad. Sci. U.R.S.S., 1936, Ser. Chim., 379—386).—Graphical methods are described (cf. A., 1893, ii, 260). R. T.

COMMON ELEMENTS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR INDEX

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.

4

0

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1

3

THE EXTENSION OF SCHREINEMAKERS' METHOD TO MULTI-COMPONENT SYSTEMS. F. Perel'man. Translated from Akad. Nauk S.S.S.R. Izvest. Otdel. Mat. i Estestv. Nauk, No. 2, 379-85(1936). 11p. (AEC-tr-1914)

A method is given which is analogous to Schreinemakers' method, and which permits the determination of the nature and composition of the solid phase, without separating it from the solution, for systems which are composed of any number of components. Differing somewhat from those in existence until now, the method of depicting multi-component systems is logically developed in such a way that instead of projections of a many-dimensioned space we have simply projections of points of a three-dimensional space on a two-dimensional one, which greatly simplifies the presentation of results. No constructions beyond those which are usually used for the methods of Schreinemakers' and Janecke are necessary. In passing from a four-component- to five-, six-, seven-, etc. component systems the same type of reasoning and means of graphing is retained. (auth)

10-28-54

LL

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

FEREIMAN, Fanny Moiseevna, 1896-

Rubidium and cesium. Moskva, Izd-vo Akademii nauk SSSR, 1941. 73 p. (43-31893)

QD181.R3P4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

CA

2

Solubility isotherms and solid phases of the system KCl-PbCl-$MgCl_2$-H_2O at 100°. [illegible] Maharov, [illegible] M. [illegible] and [illegible] Ladwig, Bull. acad. sci. U. R. S. S. (Sovet. sci. chim. 1961, [illegible]) Chem. Zentr. 1962, [illegible]. —The 100° isotherms of the quaternary system KCl-RbCl-$MgCl_2$-H_2O are characterized by the presence of 2 highly developed regions of formation of solid solns. of the spivite ((K, Rb)Cl) and carnallite ((K, Rb)Cl. $MgCl_2$. $6H_2O$) types, with very marked incongruence in the K-carnallite region. K-carnallite is completely decompd. by water at 100°; Rb-carnallite is stable under these conditions. These properties explain the characteristic peculiarities of the way in which solid solns. of spivite and carnallite crystallize; it also accounts for the presence of a compd. line between the Rb-carnallite phase and the point on the eutectic line that represents the boundary of the regions of formation of 2 solid solns.

T. H. Dunkelberger

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Application of physicochemical analysis to the study of complex catalysts. The activity of the oxides of cobalt, nickel, and copper in the decomposition of hydrogen peroxide. A. Ya. Zvorykin and F. M. Perel'man. *J. Phys. Chem.* (U.S.S.R.) 20, 1095–1101 (1946) (in Russian).

The reaction consts. of the decompn. of H_2O_2 in the presence of equimol. amts. of CuO, a Co oxide, and Ni_2O_3 were in the ratio 0.013:1.20:0.029. Among the many binary and ternary mixts. of these oxides only those contg. about 80 at.% of Co and 20% of Ni or about 80% of Co, 15% of Ni, and 5% of Cu were considerably more active than the Co oxide; in their presence the reaction const. reached 1.40. J. J. Bikerman

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

2

The dynamics of synthesis as means of estimating the stability of active hydroxides. A. Ya. Zvorykin and F. M. Perelman. Kolloid. Zhur. 9, No. 1, 37-41(1947).—The synerosis of several metal hydroxides was studied for the purpose of correlating it to aging and deactivation of their gels. Metal chlorides were pptd. with NaOCl. The suspension was thoroughly shaken, the ppt. allowed to settle, and its vol. observed. This procedure was repeated over a number of days. As the ppt. aged, its vol. contracted. Immediately after shaking, the contraction was rapid and after approx. 13-15 min. it leveled off. The results of the observations were plotted, with time in min. on the abscissa and vol. in cc. on the ordinate. A tangent drawn from the point where the curves leveled off (13-15 min.) and extended to the ordinate gave the vol. assumed to be the max. that would be reached by the ppt. immediately after shaking if it were uniformly dispersed and if it were not acted upon by gravity. This vol. decreased as the hydroxide aged and it was different for different hydroxides. The ratio of the vol. assumed by a hydroxide when it settles freely in a water-filled cylinder and the mol. vol. of the same hydroxide is referred to as the "active vol." Each of the hydroxides had its own active vol., which diminished with age. Plotting log t (time) as abscissa and log v (vol.) as ordinate gave a series of straight lines representing the change of the active vol. with time. From these curves it can be seen that the stability of hydroxides decreases in the order Mn, Fe, Ni, Co, and Cu. The results were tested on mixed Co and Cu hydroxide catalyst. The activity of these catalysts was parallel to changes in their synerosis. M. Hosch

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.; DOLININA, R.M.

Isotherms (50°) of solubility, specific gravity, and viscosity in the system NaI - NaBr - H_2O. Zhur.neorg.khim. 7 no.10: 2459-2462 O '62. (MIRA 15:10)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova AN SSSR i Azerbaydzhanskiy gosudarstvennyy universitet.
(Alkali metal halides) (Systems (Chemistry))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

L 13499-63 EWP(q)/EWP(m)/BDS AFFTC/ASD JD/JG

ACCESSION NR: AP3003485 S/0078/63/008/007/1753/1755

59
58

AUTHOR: Peral'man, F. M.; Zvory*kin, A. Ya.; Demina, G. A.

TITLE: Solubility isotherm (25°) in the system Nd(NO sub 3) sub 3 - RbNO sub 3 - HNO sub 3 - H sub 2 O

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 7, 1963, 1753-1755

TOPIC TAGS: solubility, isotherm, HNO sub 3, rubidium nitrate, neodymium nitrate, praseodymium nitrate

ABSTRACT: The authors studied the quaternary system Nd(NO sub 3) sub 3 - RbNO sub 3 - HNO sub 3 - H sub 2 O at 25° in an interval of 25 - 35% HNO sub 3 by the solubility method. It was found that two double salts of the composition 4Nd(NO sub 3) sub 3 times 5RbNO sub 3 and 2 Nd(NO sub 3) sub 3 times 7.5RbNO sub 3 are formed in this system. The differences in the properties of nitric acid solutions of neodymium and praseodymium nitrates in the presence of rubidium nitrate were shown. Orig. art. has: 2 figures and 1 table.

Card 1/2 Inst. of Gen. and Inorganic Chemistry

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F M

Application of the method of physicochemical analysis to studies of complex catalysts. The samples of the hydroxides of cobalt, nickel, copper, iron, and manganese. F. M. Perel'man. *Problemy Kinetiki i Kataliza, Akad. Nauk S.S.S.R., Inst. Fiz. Khim.* 5, *Metody Issledeniya Katalizatora* 145-64(1948).—Report on a study of the activity of complex catalysts. Hydroxides of Co, Ni, Cu, Fe, and Mn were the catalysts studied. Reaction of decompn. of NaClO was investigated. A physicochem. analysis of catalysts of complex compn. was made. The following ternary systems were formed: (1) Co-Ni-Cu, (2) Co-Cu-Fe, (3) Co-Ni-Fe, and (4) Ni-Cu-Fe. Each ternary system was depicted in the form of triangular compn. diagrams. For different points of compn., the catalytic activity was detd. by expt. Then the connection between the compn. diagram of a ternary system and its catalytic activity was detd.

Gladys S. Macy

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

Perel'man, E.M.

Physicochemical analysis of mixed catalysts. E. M. Perel'man and A. Ya. Zyorykin. *Problemy Kinetiki i Kataliza, Katalis, Akad. Nauk S.S.S.R.*, 292-5 (1949); cf. C.A. 44, 9227e.- If the catalytic activity (I) is plotted vs. compn. in the binary, ternary, and quaternary catalyst systems, certain rules become evident. If the components in the oxide and hydroxide catalysts form only mech. mixts., I varies linearly with the compn. Max. and min. in the binary catalysts appear only if a chem. interaction between the components has occurred. In the ternary and quaternary catalysts, the I max., if it occurs, lies either on the binary side of the phase diagram, or very close to the binary side. Thus, addn. of the third and the fourth component does not appreciably increase the I of the best binary compn. The addns. only broaden the max., and may improve the mech. and chem. stability of the compound catalyst. Co-Mn-Cu and Cu-Mn-Ni hydroxide systems, which catalyze the decompn. of NaClO, illustrate the rules.

Andrew Dravnieks

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.

Simplest four-dimensional figures and their application to physico-chemical analysis. Izv. Sekt. fiz. khim. anal. 18:64-71 '49.
(MIRA 11:4)

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

(Systems (Chemistry))

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BTP

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Miscellaneous Publications

10993 Application of Four-Dimension Figures in Physico-chemical Analysis. (Russian.) E. M. Perelman and A. Ia. Zvorykin. "Izvestiia Sektora Fiziko-Khimicheskogo Analiza", v. 20 (Academy of Sciences of the USSR), p. 19-28. (QD453 Ak13i)

Discusses the construction and use of 4-dimensional equilibrium diagrams. (Time is the 4th dimension.)

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CA

Irregular multidimensional figures in physicochemical analysis. F. M. Perel'man and A. Ya. Zvorykin (N. S. Kurnakov Inst. of Gen. and Inorg. Chem., Acad. Sci. U.S.S.R.). *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 19, 144-50 (1949).—The use of multidimensional diagrams for presentation of the compn. and properties of complex systems is discussed. The geometry of such figures is analyzed. M. Hosch

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PERELL'MAN, F. M.

PA 26/49T5

USSR/Chemistry - Analysis Jan 49
Chemistry - Systems

"Irregular Four-Dimensional Figures in Physical Chemistry Analysis," F. M. Perel'man, 3 pp

"Dok Ak Nauk SSSR" Vol LXIV, No 1

Diagrams and explanation of four irregular figures, the prismatic heptahedroid, pyramidal heptahedroid, pyramidal hexahedroid, and tetrahedric hexahedroid, useful in evaluating difference between internal and external factors of a system, and degree of variation of a system's characteristics in regard to a change

[redacted] 26/49T5

USSR/Chemistry - Analysis (Contd) Jan 49

in its composition. Submitted 4 Oct 48.

[redacted] 26/49T5

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F. M.

PEREL'MAN, F. M. - "New Method for Representing Polycomponent Systems." Sub 12 Nov 52, Inst of General and Inorganic Chemistry imeni N. S. Kurnakov, Acad Sci USSR. (Dissertation for the Degree of Doctorates in Chemical Sciences).

SO: Vechernaya Moskva January-December 1952

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.

Practical application of the projection of multidimensional figures. Izv. Sekt.fiz.-khim.anal. 21:65-89 '52. (MLRA 6:7)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova Akademii nauk SSSR. (Systems (Chemistry)) (Solutions, Solid) (Salts)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.

Method of V.P.Radishchev for the representation of multicomponent systems. Izv.Sekt.fiz.-khim.anal. 22:21-32 '53. (MLRA 7:5)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova Akademii nauk SSSR.
(Radishchev, Viacheslav Petrovich, 1896-1942)
(Systems (Chemistry))

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.

Projections of a heptahedroid on coordinate planes and their physicochemical meaning. F. M. Perel'man. *Izvest. Sektora Fiz.-Khim. Anal., Akad.* [redacted] 23, 61-9 (1953).—It has been shown (Radishchev, *C.A.*, 36, 4762) that in order to construct a projection of a polydimensional figure on one of its sides it is necessary to know the coordinates of its apexes. It was also shown (*ibid.* 13, 64 (1949)) that the total no. of the simple 4-dimensional figures (pentatopes and octahedroids) applicable to phys.-chem. analysis comprises 3 regular and 5 irregular polyhedrons. In this work are calcd. the coordinates of the apexes of one of the irregular polyhedroids, viz., a prismatic heptahedroid. This is done on 4 coordinates, the origin of which is placed in the center of the analyzed figure. Having found the coordinates of the apexes the figure is then projected on several sides of the heptahedroid. The use and the meaning of these projections is explained on a ternary system having 2 variable factors, temp. and time. M. Hosch

Inst. Gen + Inorg. Chem im N.S. Kurnakov

AS USSR

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PEREL'MAN, F.M.

PERELMAN, F.M.

Importance of the works of D.I.Mendeleev in the history of discoveries of rare-earth elements. Khim.red.elem. no.1:28-32 '54. (MLRA 8:3)

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

(Earths, Rare)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.

ZVORYKIN, A.Ya.; PEREL'MAN, F.M.

Solubility isotherm 25° of the system $(NH_4)_2MoO_4$--$(NH_4)_2SO_4$--H_2O. Khim.redk.elem. no.1:52-57 '54.

(MLRA 8:3)

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

(Solubility) (Ammonium salts)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.

Method for the presentation of the isotherm for the aqueous-salt system: Na^{+}, Ca^{++}, Mg^{++} Cl^{-}, SO_4^{--}, HCO_3^{-} - H_2O. Izv.Sekt.fiz.-khim. anal. 24:299-310 '54. (MIRA 8:4)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova Akademii nauk SSSR.
(Solution (Chemistry)—Graphic methods)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.

Projection of a tetrahedral hexahedroid onto the plane of a drawing. Izv.Sekt.fiz.-khim.anal. no.25:61-69 '54. (MIRA 8:5)

1. Institut obshchey i neorganicheskoy khimii im.N.S.Kurnakova Akademii nauk SSSR.
(Chemistry, Analytical--Graphic methods)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

Perel'man, F.M.

The solubility isotherm in the system of paratungstate and ammonium sulfate at 25°. A. Ya. Zvorykin and F. M. Perel'man (N. S. Kurnakov Inst. Gen. Inorg. Chem., Moscow). *Khim. Redkikh Elementov, Akad. Nauk S.S.S.R., Inst. Obshchei i Neorg. Khim.* 1955, No. 2, 64-7.—The soly. isotherm at 25° of $(NH_4)_2SO_4$-$(NH_4)_2W_3O_7$-H_2O was detd., and the results are shown graphically. In aq. neutral medium the NH_4 paratungstate passes into the bitungstate, so that this system can be regarded as the one listed above. No double salts or solid solns. are detected at 25°. The eutonic region is found at low concn. of bitungstate only (less over 0.3%) with 42.9% $(NH_4)_2SO_4$. G. M. Kosolapoff

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

Perel'man, F. M.

The structure of multicomponent reciprocal systems. F. M. Perel'man and A. Ya. Zvorykin. *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 26, 30-7(1955).—The present work represents a further development of investigations begun by Radishchev (*C.A.* 49, 10937a) on the structure of reciprocal systems. All computations are based on characteristic properties of reciprocal chem. systems, not on geometric properties of multidimensional figures. Investigation of the structures of a reciprocal system with 2 ions of one charge (type $K/2$ or $A/2$, where K = no. of cations, A = no. of anions) showed that it can be expressed by a table analogous to Pascal's triangle except that the appropriate no. of Pascal's triangle corresponding to the simple system with no. of components less one must be multiplied by two and the preceding no. added to the resultant. The no. of uni-, bi-, tri-, and quadricomponent and other lower systems (simple and reciprocal) for multicomponent systems with 5, 6, and 7 cations in the presence of 2 anions (form 5/2, 6/2, 7/2) were detd.

V. N. Bednarski

CH

Inst. Gen + Inorg. Chem in N.S. Kurnakov AS USSR

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PEREL'MAN, F.M.

Projection of a pentatope upon coordinate planes. Izv.Sekt.fiz.-khim. anal. 26:38-43 '55. (MLRA 8:9)

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

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Perelman, F. M.

5000

The activation energy of the catalytic sodium hypochlorite decomposition reaction. F. M. Perelman and A. Ya. Zvorykin (Inst. Gen. and Inorg. Chem. Akad. Sci. U.S.S.R., Moscow). *Zhur. Fiz. Khim.* 29, 1682-2(1955).—The catalytic decompn. of 2 NaOCl samples, contg. 4% active Cl, and (a) 2 and (b) 1% alky., resp., was detd. at 25 and 84°, and the activation energy of the reaction was calcd. with no catalyst present, and with $Co(OH)_3$, $Ni(OH)_3$, and a mixt. in different proportions of Co and Ni hydroxides as catalysts, by adding the Ni or Co sulfates to the NaOCl. The $Co(OH)_3$ activity is much greater than that of $Ni(OH)_3$; thus the NaOCl decompn. const. with Co is 0.0177 with sample a, and 0.0225 with sample b, whereas for Ni, the corresponding values were 0.0083 and 0.0098. The activity of the mixed catalysts was very nearly additive. The activation energy of the uncatalyzed NaOCl decompn. was 21,110 cal. (a), and 23,890 (b), with Co 14,070 and 14,970, resp., and with Ni 15,980 and 16,860 cal.

W. M. Sternberg

LFH

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PEREL'MAN, Faina Moiseyevna; ZVORYKIN, Aleksandr Yakovlevich; NIKOLAYEV, N.S., doktor khimicheskikh nauk, nauchnyy redaktor; GOLUBKOVA, V.A., redaktor; YUSFINA, N.L., tekhnicheskiy redaktor

[How chemistry originated and with what it is concerned] Kak voznikla khimiia i chem ona zanimaetsia. Moskva, Goskul'tprosvetizdat, 1956. 14 p. and 5 l. (MLRA 10:2)
(Chemistry--History)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PERELMAN, F.M.

Determination of the structure of multicomponent reciprocal systems with three ions of equal charge. Zhur.neorg.khim. 1 no.10:2416-2421 O '56. (MLRA 10:1)

(Chemical structure)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F. M.

Representation of multicomponent systems by the method of optimal projection. F. M. PEREL'MAN. Zhur. Neorgan. Khim., 1 [11] 2522-43 (1956).—A method of representing multicomponent systems is presented, which is a development of the method of V. P. Radishchev. It is based on the use of optimal projection of polydimensional figures, which permits consideration of the range of crystallization of solid phases of the system not screened by regions of crystallization of other phases and also makes possible quantitative computations. For the representation of multicomponent systems of different types, three four-dimensional figures are especially convenient: pentatop, tetrahedral hexahedroid, and four-dimensional prism. Each of them has optimal projections. To illustrate the method, P. considers the so-called marine system, formed by water solutions of chlorides and sulfates of potassium, sodium, calcium, and magnesium. For its representation the four optimal projections of the tetrahedral hexahedroid are used. These projections give a picture of all the compositions of the marine system and the region of crystallization equilibrium of the solid phases. The method of optimal projection permits establishment of the approximate limits of the re-

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the lowest compositions (ternary and quaternary) by means of interpolation. Similarly oriented diagrams are often useful in extending the indications of research, and they substantially shorten the work of analysis. 6 figures, 12 references. D.T.W.

PERELMAN, F. M.

3

The construction of oriented fusion diagrams of the system iron-nickel-copper-manganese-chromium. P. M. Perelman. Zhur. Neorg. Khim. 1, 2577-87(1956). A geometrical analysis is given of the 5-component system as represented by a pentatope, in which the 5 apexes, representing the pure components, exist in a 4-dimensional hyperspace. Suitable 2-dimensional figures are derived by projection onto the planes defined by the possible combinations of axes. Diagrams are given for the quinary system Fe-Ni-Cu-Mn-Cr and for the constituent quaternary systems, in which the projected figures appear as superimposed triangular m.p. diagrams. 21 references.

C. H. Fuchsman

Inst. Gen. & Inorg. Chem., im. N. S. Kurnakov, AS USSR

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PEREL'MAN, F. M.

The number of systems that enter into multicomponent reciprocal systems with four ions with the same charge. F. M. Perel'man. *Zhur. Neorg. Khim.* 2, 1[illegible]8-42(1937); cf. C.A. 31, 6201b.—The structure of multicomponent reciprocal systems and methods of expressing them were considered. Multidimensional figures are proposed as most suitable for this purpose. A general formula is given for calcg. the structure of these systems contg. any no. of components.

J. Rovtar-Lench

1/1

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PERELMAN F.M.

ZVORYKIN, A.Ya.; PEREL'MAN, F.M.

25° isotherms of solubility of the systems: Na_2MoO_4 — NaCl — H_2O and Na_2MoO_4 — Na_2CO_3 — H_2O. Khim.redk.elem. no.3:100-104 '57. (MLRA 10:8)

(Solubility) (Systems (Chemistry))

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PEREL'MAN, F.M.

The plan for compiling a handbook on rare metals. Khim.redk. elem. no.3:131-135 '57. (MLRA 10:8)
(Metals, Rare and minor)

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PERELMAN, F.M.

5(2) PHASE I BOOK EXPLOITATION SOV/2252

Akademiya nauk SSSR. Institut obshchey i neorganicheskoy khimii

Khimiya redkikh elementov, vyp. 3 (Chemistry of Rare Elements, Nr 3) Moscow, Izd-vo AN SSSR, 1957. 135 p. 4,500 copies printed. Errata slip inserted.

Ed. of Publishing House: Yu. S. Sklyarenko; Tech. Ed.: A. A. Pavlovskiy; Editorial Board: I. V. Tananayev (Resp. Ed.), S. A. Pogodin, Ye. Ya. Rode, V. G. Tronev, and O. F. Bogush (Secretary).

PURPOSE: The book is intended for scientists and engineers concerned with the study and utilization of rare elements.

COVERAGE: The book is a collection of papers on investigations in the chemistry of rare elements conducted at the Institut obshchey i neorganicheskoy khimii imeni N. S. Kurnakova (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov). No personalities are mentioned. There are 143 references: 59 Soviet, 23 English, 41 German, 15 French, 4 Italian, and 1 Japanese.

Flyushchev, V. Ye., and V. B. Tulinova. Investigation of Solubility in the System Lithium Carbonate-Lithium Sulfate-Water at 50°C 3

Novoselova, A. V., and L. P. Reshetnikova. Vapor Pressure of Saturated Solutions in the System $(NH_4)_2SO_4$ - $BeSO_4$ - H_2O 6

Tronev, G. G., V. B. Tulinova, V. Ye. Flyushchev, and N. I. Chuykina. Investigation of Solubility in the System Lanthanum Sulfate-Ammonium Sulfate-Water at 50°C 14

Tananayev, I. V., and M. I. Levina. Neodymium Ferrocyanides 28

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Zvorykin, A. Ye., and F. M. Perel'man. Isothermal Solubilities at 25°C in the Systems Na_2MoO_4 - NaCl - H_2O and Na_2MoO_4 - Na_2CO_3 - H_2O 100

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Alimarin, I. P., and L. Z. Kozel'. Quantitative Determination of Zirconium with Phytin 114

Poshkova, V. N., A. A. Gallay, and N. N. Alekseyeva. Amperometric Determination of Molybdenum 119

Perel'man, F. M. A Project of Compiling a Reference Guide on Rare Earth Metals 131

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G.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

78-3 3-15/47

AUTHOR: Perel'man, F. M.

TITLE: The Construction of the Phase Diagrams of Polycomponent Metallic Systems by the Method of Optimum Projection (Postroyeniye diagramm sostoyaniya mnogokomponentnykh metallicheskikh sistem po metodu optimal'nykh proyektsiy)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol.3, Nr 3, pp.630-636 (USSR)

ABSTRACT: The conditions necessary for the construction of the phase diagrams of polycomponent metallic systems by the method of optimum projection were treated. For the representation of the metallic system from six components the properties of hexatopene were adduced as an example. The minimum number of diagrams necessary for the construction of a six-component system was determined by the hexatopene-projection with ten coordinate surfaces. With the system Fe-Ni-Co-Cr-Cu-Mn the employment of the method of optimum projection for the construction of the fusion diagram of the six-component system was shown. An orientating fusion diagram of the

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78-3 3-15/47

The Construction of the Phase Diagrams of Polycomponent Metallic Systems by the Method of Optimum Projection

system Fe-Ni-Co-Cr-Cu-Mn with an accumulated quantity of iron and nickel was constructed. It was found that the melting point of the alloy with 25 % Fe, 50 % Ni, 3 % Cr 3 % Mn, 9 % Co and 10 % Cu lies at 1397 - 1398°C. In the six-component system the composition domains of all four and five-component systems were also determined on the basis of published data. There are 5 figures and 14 references, 4 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute for General and Inorganic Chemistry imeni N. S. Kurnakov, AS USSR)

SUBMITTED: June 25, 1957

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

78-3-6-14/30

AUTHORS: Perel'man, F. M., Zvorykin, A. Ya., Yakubovskaya, T. N.

TITLE: Some Difficultly Soluble Salts of the Heteropolyacid of Germanium and Silicon (Nekotoryye malorastvorimyye soli geteropolikislot germaniya i kremniya)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr.6, pp. 1374 - 1380 (USSR)

ABSTRACT: In the present paper the difficultly soluble ammonia, rubidium and cesium salts of the germanium-and silicon-molybdenum-heteropolyacid were investigated. The synthesis of germanium-molybdenum and silicon-molybdenum-heteropolyacid as ammonia, rubidium and cesium salts was described. The following compounds were produced:

$1,75(NH_4)_2O.SiO_2.12MoO_3.5H_2O$ $1,7Rb_2O.SiO_2.12,2MoO_3.8,1H_2O$

$1,85(NH_4)_2O.GeO_2.12MoO_3.4,65H_2O$ $2Rb_2O.GeO_2.12MoO_3.9H_2O$

$1,54Cs_2O.SiO_2.11,5MoO_3.6,8H_2O$

$1,82Cs_2O.GeO_2.11,5MoO_3.6H_2O$

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

78-3-6-14/30

Some Difficultly Soluble Salts of the Heteropolyacid of Germanium and Silicon

The x-ray analyses show that all these salts are isomorphous. The solubility of the ammonia, rubidium and cesium salts of the silicon-molybdenum, and germanium-molybdenum-heteropolyacids at 25°C is investigated. The solubility of ammonia salt of Si-Mo-heteropolyacid is 7,55% of rubidium salt of Si-Mo-heteropolyacid is o,475%, of cesium salt of Si-Mo-heteropolyacid 0,123%, of ammonia-Ge-Mo-acid 7,78%, of Rb-Ge-Mo-acid 0,90% and Cs-Ge-Mo-acid 0,075%. The solubility of all six salts was also determined in aqueous sulfuric acid solutions of ammonia and rubidium salts at a concentration of 1,5 - 40% sulfuric acid and of cesium salt at a concentration of 1,5-25% sulfuric acid. Also the solubility of cesium salts of the above mentioned heteropolyacids in nitric solutions at concentrations of 2% and 5,3% HNO_3 as well as the solubility of oxalic acid at concentrations of 2-9% HNO_3 was determined. Sulfuric acid considerably reduces the solubility of the ammonia, rubidium and cesium salts of the silicon-molybdenum-, and germanium-molybdenum-

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78-3-6-14/30

Some Difficultly Soluble Salts of the Heteropolyacid of Germanium and Silicon

-heteropolyacids. On this occasion the solubility of the ammonia salts of the above mentioned heteropolyacids is ten times greater than the solubility of the corresponding rubidium salts. The cesium salt of the Ge-Mo-heteropolyacid has a solubility ten times smaller than that of the corresponding Rb-Ge-Mo-acid. Cesium salt of the Si-Mo-acid has a solubility hundred times smaller than the corresponding Rb-Mo-acid. It was found that the salts of the Gr-Mo-heteropolyacids are more easely soluble than the corresponding salts of the Si-Mo-acids almost in all cases especially in concentrated acids. Cesium salt of the Si-Mo-acid shows the smallest solubility. Its solubility in aqueous sulfuric solution is 0,004-0,005%. The solubility of cesium salt of the Ge-Mo-acid in the same sulfuric solution is 0,04%. There are 5 figures, 8 tables, and 19 references, 8 of which are Soviet.

Card 3/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

78-3-6-14/30

Some Difficultly Soluble Salts of the Heteropolyacid of Germanium and Silicon

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova, AN SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, AN USSR)

SUBMITTED: May 21, 1957

AVAILABLE: Library of Congress

1. Germanium compounds 2. Silicon compounds 3. Heteropolyacids --Salts 4. Salts--Solubility 5. Chemical compounds--Production

Card 4/4

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

SOV/78-3-7-25/44

AUTHOR: Fereel'man, F.M.

TITLE: The Determination of the Number and Nature of Low Complex Systems in Multicomponent Systems of Any Type (Opredeleniye chisla i vida nizshikh sostavlyayushchikh sistem v mnogokomponentnykh sistemakh lyubogo tipa)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 7, pp 1611-1615 (USSR)

ABSTRACT: The multicomponent systems are divided into simple and interacting systems. As a result of interaction between cations and anions numerous mono-, bi-, tri- and multicomponent low systems are formed which enter the composition of multicomponent systems. In order to express the composition of any desired type of multicomponent alternating systems it is necessary to make use of irregular manysided figures. General formulae for the calculation of the number of low composed systems are given, which figure as components in the composition of multicomponent alternating systems. The complexity of the structure of the alternating systems compared to systems of simple structure with the same number of components was demonstrated. For the graphical

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The Determination of the Number and Nature of Low Complex Systems in Multicomponent Systems of Any Type SOV/ 78-3-7-25/44

representation of multicomponent alternating systems with any number of cations and anions manysided figures were recommended. There are 1 figure, 1 table, and 5 Soviet references.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk SSSR (Institute of General and Inorganic Chemistry AS USSR)

SUBMITTED: June 1, 1957

1. Complex compounds- Mathematical analysis 2. Ions--Chemical effects

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F M

AUTHOR: Perel'man, F.M., Doctor of Chemical Sciences 25-58-3-20/41

TITLE: According to the Will of Man (Po vole cheloveka)

PERIODICAL: Nauka i Zhizn', 1958, 25 Nr 3, pp 48-52 (USSR)

ABSTRACT: This is an anti-religious article dealing with the role of science. In this connection the author stresses the importance of catalyzers and catalytic processes giving a detailed description of the synthesis of ammonia, the production of sulfuric acid and of carbon monoxide, and an analysis of hydrogen peroxide.

AVAILABLE: Library of Congress

Card 1/1 1. Ammonia-Synthesis 2. Sulphuric acid-Production 3. Hydrogen peroxide-Analysis

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

76-32-3-24/43

AUTHORS: Zvorykin, A. Ya., Perel'man, F. M., Shakhova, S. K.

TITLE: On the Catalytic Activity of Rare Elements in the Reaction of the Decomposition of Hydrogen Peroxide I (O kataliticheskoy aktivnosti redkikh elementov v reaktsii razlozheniya perekisi vodoroda. I.)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol 32, Nr 3, pp 654 - 658 (USSR)

ABSTRACT: Mixed catalysts of salts of rare elements are investigated in the present paper, the attention being focused on the influence of the ratio of catalyst components, as well as that of the temperature and the pH, upon the catalytic activity. In order to bring about a simultaneous mixture of both catalyst components with the hydrogen peroxide solution, a glass container was constructed in which two little dishes with the catalysts on a glass holder are located, from where they fall into the liquid upon mechanical agitation of the system. The velocity of decomposition of hydrogen peroxide was measured at 25°C and a pH of 8.0. The experiments performed with niobium oxalate

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76-32-3-24/43

On the Catalytic Activity of Rare Elements in the Reaction of the Decomposition of Hydrogen Peroxide

showed a negative catalytic action of niobium upon other catalysts, especially cobalt chloride. Sodium molybdate in combination with copper chloride(Na_2MoO_4-$CuCl_2$) showed an increase of the catalytic action, which exceeded that of the individual components several times. Investigations with zirconium sulfate showed that in the system zirconium-sulfate/manganese-dioxide, the curve of the catalytic activity contains a maximum from which a complicated change of the catalytic activity may be deduced. A table of the changes of velocity and of the values of the reaction constant of the last-mentioned system is given from which it may be seen that the activity of zirconium sulfate at the beginning of the examination is higher, that it then drops to a lower value and remains constant. There are 4 figures, 1 table, and 9 references, 6 of which are Soviet.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

76-32-3-24/43

On the Catalytic Activity of Rare Elements in the Reaction of the Decomposition of Hydrogen Peroxide

ASSOCIATION: Akademiya nauk SSSR, Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova (AS USSR, Institute of General and Inorganic Chemistry imeni N. S. Kurnakov)

SUBMITTED: November 30, 1956

Card 3/3

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

5(2) PHASE I BOOK EXPLOITATION SOV/2715

Perel'man, Fanya Moiseyevna

Metody izobrazheniya mnogokomponentnykh sistem; sistemy pyatikomponentnyye (Methods of Representing Multicomponent Systems; Five-Component Systems) Moscow, AN SSSR, 1959. 134 p. Errata slip inserted. 3,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR, Institut obshchey i neorganicheskoy khimii.

Resp. Ed.: G.G. Urazov, Academician (Deceased); Ed. of Publishing House: V.N. Pervikova; Tech. Ed.: V.V. Volkova.

PURPOSE: This book is intended for theoretical and analytical chemists and university students in theoretical and analytical chemistry courses.

COVERAGE: The book describes methods of representing multicomponent chemical compounds according to three groups: 1) methods based on

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the projection of geometric figures (three- and multi-dimensional); 2) methods based on the structural cross sections of corresponding geometric figures; 3) methods wherein three components of the system are expressed as plane geometric figures (triangles and squares), and the remaining components are plotted as level lines similar to the isograms generally used to express the relative amount of water in water-salt systems. Principal attention, however, is given to group 1 methods. The author states in his conclusion that abstract mathematical concepts like "four-dimensional space" or "multi-dimensional geometric figures" do not apply to physical bodies, but rather express the functional dependency and relationships of many independent variables which, in chemical systems, may be the properties of a system, temperature, pressure and other conditions which determine its equilibrium states. No personalities are mentioned. There are 92 references: 63 Soviet, 6 English, 5 French and 18 German.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M., doktor khim.nauk, red.; SHEMANINA, V.N., red.; KLIMENKO, S.V., tekhn.red.

[Rubidii; sbornik perevodov] Moskva, Izd-vo inostr.lit-ry, 1959. 390 p. (MIRA 13:2)

(Rubidium)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.

Methods of representing multicomponent systems. Itogi nauki: Khim.nauki 4:283-295 '59. (MIRA 13:4)
(Systems(Chemistry))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

5(4) SOV/78-4-4-38/44

AUTHORS: Karov, Z. G., Perel'man, F. M.

TITLE: Investigation of the Physico-chemical Properties of the System $KCl-K_2MoO_4-H_2O$ (Izucheniye fiziko-khimicheskikh svoystv sistemy $KCl-K_2MoO_4-H_2O$)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 936-940 (USSR)

ABSTRACT: In the system $KCl-K_2MoO_4-H_2O$ the solubility at 25° and other physico-chemical properties of the liquid phase were investigated and listed in table 1. By the addition of potassium chloride to a saturated solution of potassium molybdate the solubility of potassium molybdate is only slightly reduced. The solubility of the individual salts agrees well with publications: K_2MoO_4 - 64.75% and KCl - 26.45%. No double salts or solid solutions are formed within the system. The "eutonic" point is attained at 63.73% K_2MoO_4 and 1.29% KCl. These data were confirmed by microphotographs. Potassium molybdate crystallizes in the form of small tablets (Fig 2,a), and long fine needles (Fig 2,b). The latter form prevails in the "eutonic"

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

5(4) SOV/76-33-2-34/45

AUTHORS: Perel'man, F. M., Zvorykin, A. Ya, Shakhova, S. K.

TITLE: The Catalytic Activity of the Rare Elements in the Decomposition of Hydrogen Peroxide II (O kataliticheskoy aktivnosti redkikh elementov v reaktsii razlozheniya perekisi vodoroda II)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 2, pp 452 - 456 (USSR)

ABSTRACT: The method of the work reported here was the same as was used in the previous paper, i.e., a simultaneous addition of both catalysts at the beginning of the reaction. Investigated were sodium gallate (I), thorium nitrate (II), titanium sulfate (III), and germanium chloride (IV), alone and together with the chlorides of cobalt, copper, and iron also of MnO_2 at 25°C and pH = 8.0. It was observed that a combination of (I) with $CuCl_2$ increased the catalytic activity and that this was greater than the additive values of the single components. All the catalysts of this system are unstable and lose their activity quickly (Fig 1). The system (II) - $CuCl_2$

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The Catalytic Activity of the Rare Elements in the Decomposition of Hydrogen Peroxide II SOV/76-33-2-34/45

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

and (II) - MnO_2 (Fig 2,3) show also an increased catalytic effect upon the decomposition of H_2O_2. With the first system the activity is doubled and with the second system the activity is 4.6 times the additive value of the components using a content of 30% (II). The system (II) - MnO_2 is more stable in its catalytic activity than the above mentioned combinations of (I). An increase of 5 to 2.5 times in activity above the additive values of the components was observed for the (III)-$CuCl_2$ and (III) - $CoCl_2$ systems, and the maximum activity was found to occur with a content of 50% (III) (Figs 4,5). The (III)-$CoCl_2$ systems are high in activity but very unstable, while (III)-$CuCl_2$ are stabler combinations. In the (IV)-$CuCl_2$ system a smaller increase in activity was observed (Fig 6). The experimental results show that the maximum activity occurs with the compositions of a 1:1 molar ratio of the components. There are 6 figures and 3 references, 2 of which are Soviet.

Card 2/3

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The Catalytic Activity of the Rare Elements in the Decomposition of Hydrogen Peroxide II SOV/76-33-2-34/45

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

SUBMITTED: July 30, 1957

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PHASE I BOOK EXPLOITATION SOV/4616

Perel'man, Fanya Moiseyevna

Rubidiy i tseziy (Rubidium and Cesium) 2nd ed., rev. and enl. Moscow, Izd-vo AN SSSR, 1960. 137 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut obshchey i neorganicheskoy khimii imeni N. S. Kurnakova.

Resp. Ed.: I. V. Tananayev, Academician; Ed. of Publishing House: N. S. Vagina; Tech. Ed.: V. V. Volkova.

PURPOSE: This book is intended for scientists interested in commercial methods of extracting rubidium and cesium from raw materials, and in the applications of these elements.

COVERAGE: This is a new edition of a book published under the same title in 1941. The revisions and additional data relate to the basic properties of rubidium, cesium, and their compounds. Data are given on hydrides, nitrides,

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borides, and germanides of rubidium and cesium, as well as on their organic compounds and the salt systems they form. The section on simple and complex salts containing rubidium and cesium has been considerably enlarged. The material on qualitative analysis has been supplemented by data on mixed ferrocyanides and cobalt nitrites, on boron hydrides, and on organic compounds used for finding rubidium and cesium ions. The material on quantitative determinations includes methods based on flame photometry, radioactive tracers, and colorimetry and chromatography on paper. Examples of quantitative and qualitative determinations of rubidium and cesium occurring separately and together are given. The chapter entitled "Extraction of Rubidium and Cesium From Minerals and Ores" contains new data on cesium extraction from pollucites, rubidium extraction from carnallites, and production of various salts from both metals. The author thanks V. I. Kuznetsov, V. Ye. Plyushchev, G. B. Seyfer, M. A. Glushkova, V. V. Tarasov, I. Z. Babiyevskaya, and T. N. Yakubovskaya. There are 346 references: 95 Soviet, 123 English, 87 German, 17 French, 12 Swiss, 1 Swedish, 3 Finnish, 5 Italian, and 3 Spanish.

~~Card 2/5~~

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.; FEDOSEYEVA, Ye.I.

Praseodymium chromates in the system Pr, K $||CrO_4$, NO_3 - H_2O .
Zhur. neorg. khim. 8 no.11:2603-2607 N '63.
(MIRA 17:1)

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

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

ROTKOVA, S.V., starshiy bibliograf; METSATUN'YAN, I.A., bibliograf; TANANAYEV, I.V., akademik, otv.red.; TRONEV, V.G., doktor khim. nauk, nauchnyy red.; SPIVAKOVA, E.M., red.; PEREL'MAN, F.M., doktor khim.nauk, nauchnyy red.; SPERANSKAYA, Ye.I., kand.khim. nauk, nauchnyy red.; DEYCHMAN, E.N., kand.khim.nauk, nauchnyy red.; BASHILOVA, N.I., mladshiy nauchn.sotrudnik, nauchnyy red.; BOL'SHAKOVA, N.K., mladshiy nauchn.sotrudnik, nauchnyy red.; KASHINA, R.S., tekhn.red.

[Chemistry of rare elements; bibliographic index of Soviet and foreign literature] Khimiia redkikh elementov; bibliograficheskii ukazatel' otechestvennoi i zarubeshnoi literatury. Moskva, Izd-vo Akad.nauk SSSR. No.1. (1951-1954). 1960. 418 p.
(MIRA 13:11)

1. Biblioteka Otdeleniya khimicheskikh nauk AN SSSR (for Rotkova).
2. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova (for Tronev, Perel'man, Speranskaya, Deychman, Bashilova, Bol'shakova).
(Bibliography--Metals, Rare and minor)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

5.2000

69030

AUTHORS: Perel'man, F. M., Zvorykin, A. Ya., Domina, G. A.

S/078/60/005/04/034/040
B004/B016

TITLE: Investigation of the Solubility in the System $Y(NO_3)_3 - NH_4NO_3 - H_2O$ at 25 and 50°

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 4, pp 960 - 963 (USSR)

ABSTRACT: The authors refer to the method of the fractional separation of lanthanides used in practice and quote a paper by G. G. Urazov and Z. N. Shevtsova (Ref 4). The purpose of the present paper is to clarify the conditions for the occurrence of the yttrium-ammonium-nitrate double salt. The results obtained according to the solubility method are presented in tables 1, 2 and in Schreinemakers' diagrams in figures 1,2. At 50° the solubility curve shows three branches corresponding to the crystallization of the three salts $Y(NO_3)_3 \cdot 4H_2O$, $Y(NO_3)_3 \cdot 2NH_4NO_3$, and NH_4NO_3. The double salt crystallizes at this temperature in the anhydrous state in the range of the concentrations of NH_4NO_3 from 18 to 44%, and of $Y(NO_3)_3$ from 66 - 48%. Its solubility in water amounts to 88% at 50°. At 25° the double salt could not be

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.; BABIYEVSKAYA, I.Z.

Systems consisting of nitrates of yttrium and gadolinium or lanthanum. Zhur.neorg.khim. 9 no.4:986-990 Ap '64. (MIRA 17:4)

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

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

86489

5.2610 1043, 1136, 1273

S/078/60/005/008/022/031/XX
B023/B066

AUTHORS: Zvorykin, A. Ya., Perel'man, F. M., Babiyevskaya, I. Z., Fedotova, T. N.

TITLE: Calcium and Iron Germanates

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 8, pp. 1717-1724

TEXT: The authors investigated systems of sodium germanate and calcium nitrate or iron nitrate in aqueous solutions with different ratios of the components. The formation of calcium metagermanate, $CaO.GeO_2.nH_2O$, and three iron germanates, $Fe_2O_3.GeO_2.nH_2O$, $Fe_2O_3.2GeO_2.nH_2O$, and $Fe_2O_3.3GeO_2.nH_2O$, was detected by Schreinemakers' method. Thermograms and X-ray diffraction patterns of the compounds mentioned above disclosed characteristic peculiarities and confirmed the chemical homogeneity of the resulting compounds. It was further found that the germanate $Fe_2O_3.GeO_2.nH_2O$ may be obtained with 15 and 2.5 molecules of hydration water, and that the

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86489

Calcium and Iron Germanates

S/078/60/005/008/022/031/XX
B023/B066

germanate $Fe_2O_3 \cdot 2GeO_2 \cdot nH_2O$ still contains two H_2O molecules after drying at 120°C. All iron germanates were subjected to X-ray phase analysis at the laboratory of V. G. Kuznetsov. Table 1 shows the composition of the liquid phases and of the "residues" in the system Na_2GeO_3-$Ca(NO_3)_2$-H_2O, and Table 2 dto. in the system Na_2GeO_3-$Fe(NO_3)_3$-H_2O. Fig. 1 illustrates the composition of the solid phases in the system Na_2GeO_3-$Ca(NO_3)_2$-H_2O, and Fig. 2 dto. in the system Na_2GeO_3- $Fe(NO_3)_3$-H_2O. V. F. Zhuravlev is mentioned. There are 7 figures, 2 tables, and 10 references: 4 Soviet, 4 German, and 2 US.

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

SUBMITTED: March 10, 1959

Card 2/3

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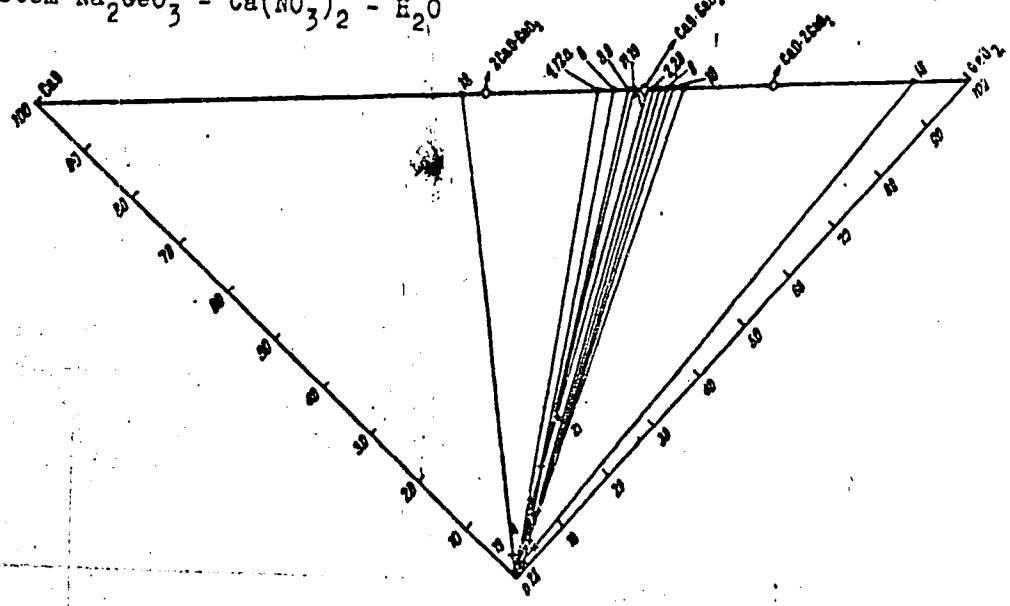
"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

86489
S/078/60/005/008/022/031/XX
B023/B066

Legend to Fig. 1: Fig. 1: Composition of the solid phases in the system Na_2GeO_3 - $Ca(NO_3)_2$ - H_2O



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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.

Representation of multicomponent systems by means of models. Zhur. neorg.khim. 5 no.9:2007-2010 S '60. (MIRA 13:11)

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

(Systems (Chemistry))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

PEREL'MAN, F.M.

Solubility polytherm for the system K^+, Na^+, // Cl^-, SO_4^{2-}, $Cr_2O_7^{2-}$ - H_2O. Zhur. neorg. khim. 5 no.11:2598-2602 N '60. (MIRA 13:11)

(Systems (Chemistry))

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ZVORYKIN, A.Ya.; PEREL'MAN, F.M.

Oxidation of cobalt sulfide in the presence of sodium chloride.
Zhur.prikl.khim. 33 no.4:765-768 Ap '60. (MIRA 13:9)
(Cobalt sulfide) (Oxidation)

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VERKHOVSKAYA, A.K.; PEREL'MAN, F.M. (Moskva)

Peroxide compounds in the system $CuSO_4$ - Na_2MoO_4 - H_2O_2 - H_2O.
Zhur. fiz. khim. 35 no. 4:828-835 Ap '61. (MIRA 14:5)

1. Akademiya nauk SSSR, Institut obshchey i neorganicheskoy khimii; i Kurganskiy sel'skokhozyaystvennyy institut.
(Peroxides) (Systems (Chemistry))

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L 53723-65 EWG(j)/EPA(s)-2/EWT(m)/EPF(c)/EPR/T/EWP(t)/EWP(b)/EWA(c)
Pr-4/Ps-4/Pg-7 IJP(c) JD/JG
ACCESSION NR: AP5012974 UR/0078/65/010/005/1233/1236
541.123.32+546.33'175+546.786'33

AUTHOR: Karov, Z. G.; Perel'man, F. M.; Rogozhina, G. N.

41
39
B

TITLE: The $NaNO_3$-Na_2WO_4-H_2O system at 25°C

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 5, 1965, 1233-1236

TOPIC TAGS: sodium tungstate, sodium nitrate, solubility isotherm, inorganic system

ABSTRACT: The solubility in the $NaNO_3$-Na_2WO_4-H_2O system was studied at 25°C, and a solubility isotherm was plotted (see fig. 1 of the Enclosure). The addition of increasing amounts of sodium nitrate to the saturated solution of sodium tungstate markedly decreases the solubility of the latter with a slight positive deviation from additivity. No binary salts or solid solutions were found in the system. The solubility isotherm has two branches of crystallization of the initial pure salts: $NaNO_3$ and Na_2WO_4. At the isosmotic point, the concentration of the components is 39.8% $NaNO_3$ and 10.76% or 10.80% Na_2WO_4. [Abstracter's note: the higher value is mentioned on p. 1235, the lower on p. 1236]. The crystallization of $NaNO_3$ from

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ACCESSION NR: AP5012974

saturated solutions proceeds rapidly, whereas $Na_2WO_4 \cdot 2H_2O$ crystallizes out more slowly, 20 to 30 min after the deposition of the solution on the glass slide. Some physicochemical properties of saturated solutions of the system were determined (see fig. 2 of the Enclosure). Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Kabardino-Balkarskiy universitet (Kabardino-Balkarian University); Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry, Academy of Sciences SSSR)

SUBMITTED: 02Jan64 ENCL: 02 SUB CODE: IC

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ACCESSION NR: AP5012974 ENCLOSURE: 01

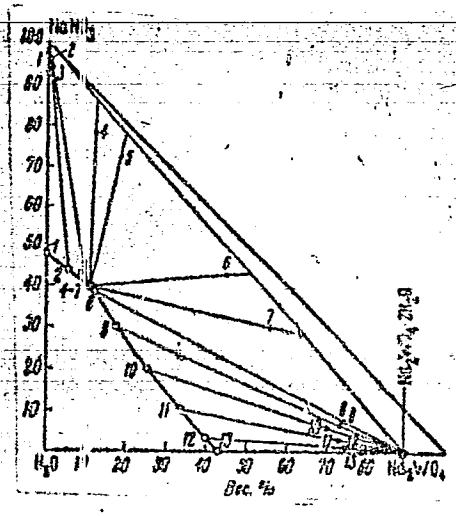

Fig. 1. Solubility isotherm of the $NaNO_3$-Na_2WO_4-H_2O system.

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ACCESSION NR: AP5012974 ENCLOSURE: 02

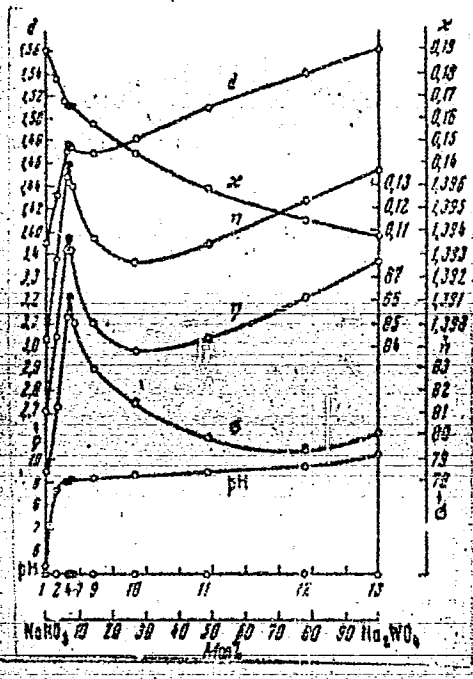

Fig. 2. Properties of liquid phases of the $NaNO_3$-Na_2WO_4-H_2O system as a function of composition at 25°C:

d--density; χ--electrical conductivity; n--refractive index; η--viscosity; σ--surface tension; pH--hydrogen ion concentration

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BABIYEVSKAYA, I.Z.; PERELMAN, F.M.

System $Gd(NO_3)_3$ - NH_4NO_3 - HNO_3 - H_2O. Zhur. neorg. khim. [illegible] (MIRA [illegible]) 681-683 Mr '65.

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

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240010010-2

KAROV, Z.G.; PEREL'MAN, F.M.; ROGOZHINA, G.N.

System $NaNO_3$ - Na_2WO_4 - H_2O at 25°C. Zhur. neorg. khim. 10 no.5:1233-1236 My '65. (MIRA 18:6)

1. Kabardino-Balkarskiy universitet i Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN SSSR.

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L 60889-65 EWT(m)/EPF(c)/EWP(j)/T/EWP(t)/EWP(b) IJP(c)/RPL JD/WW/RM

ACCESSION NR: AP5018924 UR/0363/65/001/006/0900/0902
661.635.6

AUTHOR: Perel'man, F. M.; Zvorykin, A. Ya.; Gamza, L. B.

TITLE: Degree of polymerization of potassium metaphosphates at various temperatures

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 6, 1965, 900-902

TOPIC TAGS: potassium metaphosphate, inorganic polymer, polyphosphate

ABSTRACT: To determine the nature of the polymerization process, a preparation of KH_2PO_4 was heated for 3 hr. at various temperatures (300, 500, 700, and 900C), and rapidly cooled. The weight loss was determined, and the samples were analyzed by paper chromatography. The diffusion method was used to find the average degree of polymerization. The condensation process takes place via the reaction $KH_2PO_4 \rightarrow K_2H_2P_2O_7 \rightarrow KPO_3$. It was found that at 300C the sample consists of a mixture of 90% potassium acid pyrophosphate and 10% potassium metaphosphate having a ring structure. At 500C, the preparation contains 96.2% chain polyphosphates and a slight amount of ring metaphosphates; chain metaphosphates with structure close to $(KPO_3)_6$ are formed. At higher temperatures, longer chains

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ACCESSION NR: AP5018924

are formed, and at 900C the polymer chain already contains 22 molecules of KPO_3. At 500, 700, and 900C, the average degree of polymerization is respectively equal to 6.1, 13.6, and 21.7. A comparison of the polymerization of potassium phosphate and sodium phosphate shows that the former begins to polymerize at a lower temperature (below 500C), whereas the latter does so above 500C. However, the degree of polymerization of potassium metaphosphates at 900C is almost one-half that of sodium metaphosphates at this temperature. Orig. art. has: 2 figures, 1 formula and 2 tables.

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

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