ZOLOTAVIN, V.L., prof.; RESHETNIKOVA, Ye.A.; PILIPENKO, A.T.(Kiyev); SHCHERBOV, D.P. (Alma-Ata); POPOV, M.A.; NAZARCHUK, T.M.

Supplying laboratories with chemical reagents. Zav.lab. 26 no.8:1034-1036 '60. (MIRA 13:10)

1. Ural'skiy politekhnicheskiy institut, Sverdlovsk (for Reshetnikova). 2. Rukovoditel' metodicheskoy gruppy Sentral'noy laboratorii Novosibirskogo geologicheskogo upravleniya (for Popov). 3. Zaveduyushchiy laboratoriyey khimicheskogo i fazovogo analiza Instituta metallokeramiki i spetsial'nykh splavov AN USSR (for Nazarchuk).
(Chemical laboratories) (Chemical tests and reagents)

NAZARCHUK, T. N.

USSR

PHASE I BOOK EXPLOITATION SOV/5994

Akademiya nauk Ukrainskoy SSR. Institut metallokeramiki i spetsial'nykh splavov. Seminar po zharostoykim materialam.

Trudy Seminara po zharostoykim materialam, 19-21 aprelya 1960 g. Byulleten' no. 6: Khimicheskiye svoystva i metody analiza tugoplavkikh soyedineniy (Transactions of the Seminar on Heat-Resistant Materials of the Insitute of Powder Metallurgy and Special Alloys of the Academy of Sciences of the Ukrainian SSR. Held 19-21 April, 1960. Bulletin no. 6: Chemical Properties and Methods of Refractory Compound Analysis). Kiyev, Izd-vo AN UkrSSR, 1961. 124 p. 1500 copies printed.

Sponsoring Agency: Akademiya nauk Ukrainskoy SSR. Institut metallokeramiki i spetsial'nykh splavov.

Editorial Board: I. N. Frantsevich; G. V. Samsonov, Resp. Ed.; I. M. Fedorchenko, V. N. Yeremenko, V. V. Grigor'yeva, and T. N. Nazarchuk; Tech. Ed.: A. A. Matveychuk.

Card 1/

Transactions of the Seminar (Cont.)

SOV/5994

PURPOSE: This collection of articles is intended for chemists, engineers, workers at scientific research institutes and plant laboratories, senior students, and aspirants at chemical and metallurgical schools of higher education.

COVERAGE: Articles of the collection present the results of studies of the chemical properties of refractory compounds (carbides, borides, nitrides, phosphorides, silicides), refractory and rare metals, and their alloys, and some original methods of analyzing these materials, which are now being utilized in the new fields of engineering. No personalities are mentioned. Each article is accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

Card 2/5

Transactions of the Seminar (Cont.) SOV/5994

Card 3/5

KOTLYAR, Ye.Ye.; NAZARCHUK, T.N.

Determination of titanium in titanium carbide-niobium alloys.
Zhur.anal.khim. 16 no.5:631-634 S-O '61. (MIRA 14:9)

1. Institute of Metalloceramics and Special Alloys, Academy of Sciences, Ukrainian S.S.R., Kiyev.
(Titanium--Analysis) (Titanium-niobium alloys)

S/081/62/000/017/036/102
B162/B 101

AUTHOR: Nazarchuk, T. N.

TITLE: Boron carbide, chemical properties and analyzing methods

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 135, abstract 17D106 (Byul. In-t metallokeram. i spets. splavov AN USSR, no. 6, 1961, 30 - 37)

TEXT: Investigation is carried out on the chemical stability of boron carbide (I) in different acids (HCl, H_2SO_4, HNO_3, HF, $HClO_4$), their mixtures and in alkaline solutions when cold and when heated. It is shown, that I is quite stable with regard to acids. In dilute acids (1:1) I possesses a very small solubility. I is also stable in alkaline solutions of various concentrations when cold as well as when heated and in the presence of oxidizers. A complete analyzing method of I is developed, which includes detection of the total and free B, Al, Si, Fe, Ca and Mg. In determining the total B, a weighed portion of I is fused in a Fe crucible with a mixture of NaOH and Na_2O_2. In determining the

Card 1/2

Boron carbide, chemical properties...

impurities, they are precipitated by adding $BaCO_3$. The precipitate of hydroxides is re-precipitated to eliminate losses of B owing to co-precipitation of H_3BO_3. In the filtrate, B is determined by means of titration after adding mannite or invert sugar in the presence of phenolphthalein as indicator. For a complete analysis of I, a weighed portion is decomposed by melting in a Pt crucible. In separate aliquot batches of the solution the total quantities are determined of B and Fe (photometrically as thiocyanate), of Al (by photometric determination with Aluminon, preventing the interference of Fe by adding ascorbic acid), of Ca (by the oxalate method) and of Mg (by the phosphate method). The content in free C is determined from the time required to reach the constant combustion rate of I (G. A. Meyerson, G. V. Samsonov, Zavodsk. laboratoriya, 1950, 16, 1423). To determine the free B, a weighed portion of I is boiled with a mixture of perhydrol and concentrated HNO_3 (1:2) in a flask with a reflux condenser for 30 - 40 min. The undissolved residue is filtered off and the free B passing into solution is determined by titration after adding mannite or invert sugar. [Abstracter's note: Complete translation.]

Card 2/2

3/081/62/000/019/011/053
B144/B180

AUTHORS: Kotlyar, Ye. Ye., Nazarchuk, T. N.

TITLE: Analysis of alloys of titanium carbide with different metals

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1962, 119, abstract 19D102 (Byul. In-t metallokeram. i spets. splavov AN USSR, no. 6, 1961, 93 - 109)

TEXT: Methods are described for analyzing alloys of TiC with Nb or V. To determine Ti in TiC-Nb alloys the sample (0.1 - 0.2 g) is dissolved in 10 - 15 ml of a mixture of concentrated HNO_3 and HF, the solution is evaporated to a small volume, 10 ml H_2SO_4 is added and again evaporated till evolution of a white fume. During cooling, 20 - 25 ml concentrated H_2SO_4 and 1 - 2 g KF or 8 - 10 g citric (or tartaric) acid are added, diluted with water to 100 ml and while the solution is cooling 2.0 - 3.0 g Al powder is introduced in several batches. When the vigorous evolution of H_2 has ceased, the solution is boiled until Al is completely dissolved,

Card 1/3

Analysis of alloys ...

cooled in a CO_2 flow and Ti^{3+} is titrated with $NH_4Fe(SO_4)_2$ solution, using KSCN as indicator. If the alloy does not dissolve in a mixture of concentrated HNO_3 and HF, it is fused with $K_2S_2O_7$, the fusion is leached with 20 ml 35%-tartaric or citric acid, 20 ml concentrated H_2SO_4 is added and then treated as described above. Ti determination is not inhibited by a double amount of Nb. To determine Ti in TiC-V alloys, the sample (0.1 - 0.2 g) is dissolved in a mixture of 20 ml H_2SO_4 (1 : 4) and 5 ml HNO_3 (specific weight 1.43), the solution is evaporated till evolution of white fume, 25 ml of 1 M tartaric acid is introduced into the cooled solution, a pH of 3 - 4 is established by addition of NH_4OH, and 30 ml of ammonium acetate buffer solution (pH 3 - 4) is added. The solution is passed into a separating funnel, Na diethyl dithiocarbaminate is added and a yellowish-orange precipitation of V carbaminate is extracted by chloroform. The pH of the aqueous layer is checked with a multipurpose indicator paper and the precipitation and extraction of V carbaminate are repeated. The V-free aqueous layer is boiled till clear, 20 ml H_2SO_4 (1 : 1) is

Card 2/3

S/081/62/000/019/011/053
B144/B180

Analysis of alloys ...

added and Ti is determined by one of the usual methods. V is determined in the chloroform extract or from the separated weighed portion.
[Abstracter's note: Complete translation.]

Card 3/3

S/081/62/000/018/012/059
B144/B186

AUTHORS: Kotlyar, Ye. Ye., Nazarchuk, T. N.

TITLE: Analysis of titanium-tin alloys with high tin content

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1962, 121, abstract 18D142 (Byul. In-t metallokeram. i spets. splavov AN USSR, no. 6, 1961, 121 - 123)

TEXT: A method of determining Ti and Sn in Ti-Sn alloys was devised. To determine the Sn, 0.1 - 0.15 g of the alloy are dissolved by heating in 30 - 40 ml H_2SO_4 (1:4) and 5 - 10 ml of concentrated HNO_3 are added, whereupon the mixture is heated until it dissolves completely and is evaporated until a white fume appears. After cooling, the residue is diluted with water (~150 ml), 40 - 50 ml of concentrated HCl and 2 g of fine-grained Al (to reduce Sn) are added. After the evolution of H_2 is complete, 20 ml of concentrated HCl are added. Then the mixture is boiled in a current of CO_2 until the separated Al and Sn dissolve completely. After cooling, 10 ml of a 0.5% starch solution and 2 g of KI are added and

Card 1/2

S/081/62/000/018/012/059
B144/B186

Analysis of titanium-tin...

Sn^{2+} is titrated with an 0.05 N KIO_3 solution. In order to determine Ti the sample is dissolved and Sn is distilled off in the form of $SnBr_4$. In the residue Sn is determined either gravimetrically or by titration of Ti^{3+} with $Fe(NH_4)(SO_4)_2$ solution in the presence of KSCN (after reduction of Ti^{4+} to Ti^{3+} by metallic Al). [Abstracter's note: Complete translation.]

Card 2/2

30279

S/078/61/006/012/005/011
B110/B147

15.2240

AUTHORS: Lyutaya, M. D., Nazarchuk, T. N., Modylevskaya, K. D.

TITLE: Reaction of boron carbide and metal borides with CaO and $BaCO_3$ during sintering

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 12, 1961, 2738-2743

TEXT: The authors studied processes occurring during the sintering of metal borides (TiB_2, ZrB_2, CrB_2, Co_2B, Ni_2B etc), boron carbide, and boron nitride with CaO and $BaCO_3$ in air, in CO_2 and O_2 streams. Metal borides, boron carbide, and boron nitride were obtained from the Institut metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Powder Metallurgy and Special Alloys AS UkrSSR). Powdery compounds (< 270 mesh) were calcinated in an open muffle furnace in the air, and in a pipe still in O_2 and CO_2 streams. Four portions of B_4C and one portion of CaO were thoroughly mixed and calcinated for two hours in a muffle furnace at 950°C, and B_4C insoluble in hot water, and calcium borate were filtered off

Card 1/4

The latter was dissolved in HCl; next, Ca and B were determined by [illegible] $)_2$ and alkali, respectively, in the presence of mannite. The reaction of Ca and B_4C was examined in an apparatus for N determination [illegible] and the gases obtained were analyzed in a [illegible] (VTI-[illegible]) apparatus. [illegible] of B_4C in the air at 900°C, 2 hr, first yields 40 - 50% of B_2O_3. Oxidation then slows down without being quantitative, since B_4C particles are coated with molten B_2O_3. Oxidation [illegible] fast and complete if B_4C is mixed with [illegible]. At 860°C B_2O_3 thus formed immediately reacts with CaO [illegible] $\rightarrow 2Ca_2B_6O_{11}$ + [illegible]. [illegible] with CaO in [illegible], [illegible] is also completely decomposed forming [illegible] CaB_2O_4 [illegible], and (2) $Ca_2B_6O_{11}$ hardly [illegible] according to the reaction [illegible] $\rightarrow CaB_2O_4 + Ca_2B_6O_{11}$ + [illegible] where B_4C even reduces CO_2. At a temperature of 1000°C, CaB_6O_{10} [illegible]

Card 2/4

in water and hardly soluble in HCl was obtained. In an aqueous extract, after 2 hr sintering of B_4C and $BaCO_3$ at 820°C, the ratio $Ba^{2+} : B^{3+}$ was ~1, $BaO : B_2O_3 = 2 : 1$. B_4C or metal borides are oxidized to B_2O_3 by CO_2. B_2O_3 immediately reacts with BaO under the formation of water-soluble $2BaO \cdot B_2O_3$ ($Ba_2B_2O_5$) which could be analytically proven. CO_2 forming by reaction between borides and $BaCO_3$ was gas-analytically detected. Its amount corresponded to the reactions suggested. Higher CO_2 content in zirconium and titanium borides is explained by the formation of experimentally detected $BaZrO_3$ and $BaTiO_3$ with decomposition of additional $BaCO_3$. Thus, the reactions

$$B_4C + 4BaCO_3 + 4O_2 \rightarrow 2Ba_2B_2O_5 + 5CO_2 \quad (1)$$

$$4BN + 4BaCO_3 + 3O_2 \rightarrow 2Ba_2B_2O_5 + 2N_2 + 4CO_2 \quad (2)$$

$$4Ni_2B + 4BaCO_3 + 5O_2 \rightarrow 2Ba_2B_2O_5 + 4Ni_2O + 4CO_2^{**} \quad (3)$$

$$4Co_2B + 4BaCO_3 + 7O_2 \rightarrow 2Ba_2B_2O_5 + 8CoO + 4CO_2^{**} \quad (4)$$

Card 3/4

Reaction of boron carbide and metal ...

$$2ZrB_2 + 4BaCO_3 + 5O_2 \rightarrow 2Ba_2B_2O_5 + 2ZrO_2 + 4CO_2 \quad (5)$$
$$2TiB_2 + 4BaCO_3 + 5O_2 \rightarrow 2Ba_2B_2O_5 + 2TiO_2 + 4CO_2 \quad (6)$$
$$CrB_2 + 3BaCO_3 + 3O_2 \rightarrow Ba_2B_2O_5 + BaCrO_4 + 2CO_2 \quad (7)$$

take place. CO formation in the reaction of B_4C with $BaCO_3$ in a CO_2 atmosphere is as follows: $B_4C + 4BaCO_3 + 3CO_2 \rightarrow 2Ba_2B_2O_5 + 8CO$. There are 8 tables and 12 references: 11 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: H. Blumenthal. Analyt. Chem., 23, 192 (1951).

ASSOCIATION: Institut metalloker.miki i spetsial'nykh splavov AN USSR (Institute of Powder Metallurgy and Special Alloys AS UkrSSR)

SUBMITTED: November 9, 1960

Card 4/4

S/075/61/016/001/014/019
B013/B055

AUTHORS: Klibus, A. Kh. and Nazarchuk, T. N.

TITLE: Photometric Determination of Nitrogen in Titanium Carbide and -Boride and Other Refractory Materials

PERIODICAL: Zhurnal analiticheskoy khimii, 1961, Vol. 16, No. 1, pp. 79-82

TEXT: In this work, the solubility in various organic solvents of the dye formed in the thymol - hypobromite reaction on ammonia was studied with a view to finding out conditions under which the thymol-hypobromite reaction can be applied for the determination of nitrogen in titanium carbide and other refractory materials. The experiments showed that intensely colored extracts are obtained by using esters and alcohols as solvents. Of the esters and alcohols investigated, isoamyl acetate and n-butyl alcohol, respectively, were chosen. At equal nitrogen content, the latter solvent gives a much intenser color than isoamyl alcohol. The absorption curves of the dye solutions in n-butyl alcohol and isoamyl acetate are shown in Fig. 1. The optical-density measurements of the extracts were carried out

in a universal ΦM(FM) Pulfrich photometer. The molar extinction coefficient of the dye in n-butyl alcohol is nearly 6 times that in isoamyl acetate. Thus the use of n-butyl alcohol considerably increases the measuring sensitivity. The optical density of the extracts must be measured with a red filter (λ_{eff} = 665 mμ). The optimum pH for dye formation is illustrated in Fig. 2. The colored compound forms at pH 11 - 11.5, but the pH of the solution before addition of the reagents must be between 1.5 and 8.5, if the reaction is to proceed satisfactorily. In practice, this means that the acid solution of the test sample must be neutralized with caustic soda against phenolphthalein before adding thymol and hypobromite. When small quantities of nitrogen are to be determined, the precipitation of hydroxides during neutralization must be prevented by suitable additives. Chromium is masked best by oxalic acid, iron, titanium, and vanadium by means of potassium fluoride. Tests showed that with these masking agents, calibration curves taken in the presence of titanium, iron, chromium, and vanadium are practically identical with curves obtained under the same experimental conditions, but with pure ammonium salt solution. In consequence, a standard calibration curve plotted for the

Photometric Determination of Nitrogen in Titanium Carbide and -Boride and Other Refractory Materials

S/075/61/016/001/014/019
B013/B055

pure ammonium salt may be used for the determination of small quantities of nitrogen in samples containing titanium, iron, chromium, and vanadium. Basing on the experimental data obtained, the authors worked out a method of determining small quantities of nitrogen (0.01 - 1%) in titanium carbide and titanium boride. Wherever possible, chemically pure reagents and bi-distilled water for preparing the solutions should be used. The only differences between the determination of nitrogen in refractory compounds containing chromium, iron, and vanadium as main constituents and the above analysis of titanium carbides and borides are the way in which the weighed portion is decomposed and the type of masking agent used to prevent hydroxide precipitation. L. N. Lapin, V. O. Geyn, and G. Ya. Veynberg are mentioned. There are 2 figures and 8 references: 4 Soviet, 1 Dutch, 1 French, 1 British, and 1 German.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov, Kiyev (Institute of Metallocermics and Special Alloys, Kiyev)

SUBMITTED: July 13, 1959

Card 3/3

KUGAY, L.N.; NAZARCHUK, T.N.

Analysis of transition metals and rare earth borides. Zhur.anal. khim. 16 no.2:205-208 Mr-Ap '61. (MIRA 14:5)

1. Institute of Metallo-Ceramics and Special alloys, Academy of Sciences U.S.S.R., Kiyev
(Rare earth borides)
(Transition metal borides)

S/075/61/016/006/002/006
B106/B147

AUTHORS: Kotlyar, Ye. Ye., and Nazarchuk, T. N.

TITLE: Titanium determination in alloys of titanium carbide and vanadium

PERIODICAL: Zhurnal analiticheskoy khimii, v. 16, no 6, 1961, 688-691

TEXT: Titanium and vanadium were separated by precipitating by sodium diethyl dithiocarbaminate in the presence of masking substances (tartaric acid, citric acid, oxalic acid, ammonium fluoride). Yu A. Chernikhov and B. M. Dobkina (Ref. 4: Zavodsk. laboratoriya 12, 1143 (1949)) showed that vanadium diethyl dithiocarbaminate was only stable in acid solutions. The vanadium complex can be easily extracted from acid solutions by chloroform. According to data by I. V. Pyatnitskiy (Ref. 6: Ukr. khim. zhurnal 25, 64 (1959)) vanadium is completely masked by tartaric acid at pH 7 and by citric acid at pH 4 or 5 if there is a 50-fold excess of the masking acid. Titanium is not precipitated by diethyl dithiocarbaminate at any pH-value either in the presence of tartaric acid or in the presence of citric acid. To ascertain the pH

Card 1/6

Titanium determination in ...

value at which vanadium is quantitatively precipitated by diethyl dithiocarbaminate in the presence of the masking substances mentioned, a 20-fold amount of the respective masking substance was added to a solution of vanadium sulfate which contained 0.1-0.15 g of vanadium. The required pH value was adjusted by addition of ammonia and stabilized by a corresponding acetate ammonia buffer solution. The precipitate of vanadium diethyl dithiocarbaminate was extracted by chloroform after dry sodium diethyl dithiocarbaminate had been added. The vanadium content in the aqueous phase, was photometrically determined by means of hydrogen peroxide in the presence of sodium fluoride. The investigations showed that vanadium was quantitatively precipitated in the presence of tartaric acid at pH 3-5, in the presence of citric acid at pH 2-3, and in the presence of ammonium fluoride at pH 5-6, by sodium diethyl dithiocarbamir ate. In the presence of oxalic acid, part of the vanadium remains in the aqueous phase at all pH values 3-6. On the basis of these results, the authors developed the following method for analyzing titanium carbide vanadium alloys. 25 milliliters of 1 M tartaric acid solution is added to the sulfate of the alloy (0.1-0.2 g) and a pH of 3-4 is adjusted by [illegible] ammonia. Then, 20 milliliters of an acetate [illegible] buffer solution with pH 3-4 is added. After adding small portions

Card 1/[illegible]

S/075/61/016/009/00[illegible]/[illegible]
B106/B147

Titanium determination in ...

of dry sodium diethyl dithiocarbaminate, the yellow-orange precipitate is extracted by chloroform. The pH value is checked in the aqueous layer and 1 drops of hydrochloric acid are added if necessary. Subsequently, vanadium is again precipitated by diethyl dithiocarbaminate so that all vanadium is contained in the aqueous layer. After adding 20 milliliters of H_2SO_4 (1 : 1), titanium is determined by one of the conventional methods. Instead of tartaric acid, 1-2 g of ammonium fluoride may be used. In this case, pH of the solution should be 5-6. Vanadium can either be determined from a separate weighed-in portion without separation of titanium, or titrimetrically from the chloroform extract. There are 3 tables and 6 references: 5 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: Gallan T., Henderson J., Analyst 54,650 (1959).

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN USSR, Kiyev (Institute of Powder Metallurgy and Special Alloys AS UkrSSR, Kiyev)

SUBMITTED: June 30, 1960

Card 3/4

S/032/61/027/003/003/025
B116/B203

AUTHORS: Nazarchuk, T. N. and Pechentkovskaya, L. Ye.

TITLE: Colorimetric determination of free carbon in molybdenum and tungsten carbides

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 3, 1961, 256-258

TEXT: The method worked out by the authors is based on the ability of free carbon of adsorbing dyes from their solutions. It was the aim of this investigation to develop a rapid method for practical purposes. First, the authors studied the adsorption of bromthymol blue, methyl orange, methylene blue, and methyl violet to TiC, Cr_3C_2, WC, W_2C, MoC, Mo_2C, ZrC, SiC, and B_4C in the presence of free carbon. It was shown that no dye adsorption took place to tungsten and molybdenum carbides. Favorable dyes were bromthymol blue, methyl orange, methyl violet. A ФМ-1 (FM-1) photometer was used as measuring instrument. The color intensity before and after adsorption was measured. Further experiments made with carbon black showed that 5 minutes of shaking were sufficient to saturate the carbon black surface with dye. The adsorption of bromthymol blue to carbon black is not af-

Card 1/3

S/032/61/027/003/003/005
B118/B203

Colorimetric determination ...

fected by the pH in the range of 1-7. No adsorption takes place at pH = 10. On the basis of a calibration (calibration curve), the free carbon content is proportional to the optical density of solutions after adsorption. Prescription: 0.5-1.0 g of Mo- or W-carbide are suspended in 4 ml of glycerin; after adding 5 ml of bromthymol blue solution (21 mg of bromthymol blue per 100 ml of water) and 1 ml of buffer (pH 3; ammonia acetic acid), the substance is shaken for 5 min, and then filtered. 2 ml of the filtrate are mixed with 3 ml of 0.5% NaOH, filled up with water to 10 ml, and measured in a 1 cm thick cuvette at 574 mμ (filter no. 4), and the carbon content is determined from the calibration curve. The determination takes 20-30 min. To check the method, a comparative determination of free carbon in WC and Mo_2C, respectively, was made by the usual gas-volumetric method, and by determining the free C content in mixtures of purest carbide and carbon black produced by the authors (with defined mixing ratio). Accuracy of the colorimetric method: ~5%. Similar results were obtained with methyl orange (pH = 3, wavelength 496 mμ = filter no. 6), and methyl violet (highly sensitive; wavelength 574 mμ = filter no. 4) in the case of tungsten carbide. Free C in molybdenum carbide and other carbides cannot be determined with

Card 2/3

Colorimetric determination ...

the dyes mentioned at last, since the carbides themselves adsorb considerable quantities of them. A paper by N. M. Popova and L. V. Zaslavskaya is mentioned. There are 1 figure, 4 tables, and 4 Soviet-bloc references.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences, UkrSSR)

S/032/61/027/011/003/016
B106/B110

AUTHORS: Modylevskaya, K. D., Lyutaya, M. D., and Nazarchuk, T. N.

TITLE: Caking method in analyses of boron carbide, boron nitride, and metal borides

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 11, 1961, 1345-1346

TEXT: In the present paper, a method of decomposing boron carbide boron nitride, and metal borides by caking with CaO, MgO, and $BaCO_3$ has been developed, since the traditional methods (acid decomposition, melt in platinum crucible, melt in iron crucible) have several drawbacks in mass analyses. Platinum crucibles are not required for the new method. The authors found that a 40% oxidation of the borides of hardly fusible metals, and boron carbide and nitride, takes place with formation of boric acid anhydride by 2 hr roasting in an open muffle furnace at 950°C. Further oxidation proceeds very slowly, since the particles coat with the molten boron trioxide. This particle vitrification can be avoided and the oxidation period reduced by careful mixing of boron carbide with a

Card 1/3

Caking method in analyses of boron ...

porous material. For this purpose, the authors used CaO, MgO, and $BaCO_3$. The sample is completely oxidized within 1 - 1.5 hr by carefully mixing the borides of hardly fusible metals with the tenfold amount of CaO or MgO, and caking the mixture in an open muffle furnace at 950 - 1000°C. Only in the case of chromium boride, complete decomposition takes 3 hr. The resulting B_2O_3 reacts with CaO to give calcium polyborate, $Ca_2B_6O_{11}$, which is practically insoluble in water. The cake thus formed has therefore to be dissolved in dilute hydrochloric acid. After neutralization with dilute sodium lye with methyl red as indicator, some drops of hydrochloric acid are added until the indicator rechanges to red. Then, a small amount of dry $BaCO_3$ is added until the color turns yellow. The solution is then heated to boiling, and the deposit of admixtures is filtered off and carefully washed with hot water. Much better results are obtained by caking with $BaCO_3$. In this process, the borides of hardly fusible metals are completely decomposed, and practically all boron passes into the aqueous extract after treatment with water. When the

Caking method in analyses of boron ...

deposited admixtures have been filtered off, boron contained in this extract is determined by titration with lye in the presence of mannite or invert sugar. The above caking of metal borides, and boron nitride and carbide, with CaO or $BaCO_3$ was conducted in nickel, iron, and porcelain crucibles. Unglazed porcelain crucibles proved best suitable for caking with CaO, and nickel crucibles for caking with $BaCO_3$. The cake can easily be removed from the crucible walls and taken out by shaking. The authors tested the above method of caking with CaO and $BaCO_3$ by comparative boron determinations by the above method and that of black ash. The good agreement of results proves the suitability of the described method for determining boron in boron carbide and nitride, and in metal borides. There are 1 table and 1 Soviet reference.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences UkrSSR)

PHASE I BOOK EXPLOITATION SOV/6030

Samsonov, G. V., Corresponding Member, Academy of Sciences UkrSSR; A. T. Pilipenko, Doctor of Chemical Sciences, Professor; T. N. Nazarchuk, Candidate of Chemical Sciences; O. I. Popova, Candidate of Chemical Sciences; and T. Ya. Kosolapova, V. A. Obolonchik, G. Kh. Kotlyar, L. N. Kuchay, V. P. Kopylova, G. T. Kabannik, A. Kh. Klibus, K. D. Modylevskaya, and S. V. Radzikovskaya.

Analiz tugoplavkikh soyedineniy (Analysis of Refractory Compounds) Moscow, Metallurgizdat, 1962. 256 p. 3250 copies printed.

Ed.: Ye. A. Nikitina; Ed. of Publishing House: O. M. Kamayeva; Tech. Ed.: A. I. Karasev.

PURPOSE: This book is intended as a laboratory manual for personnel in plant laboratories of the machinery, chemical, and aircraft industries and scientific research institutes. It can also be used by chemistry students at universities and schools of higher education.

Card 1/4

COVERAGE: The book contains data from the literature and from laboratory research on the chemical and mechanical properties, crystalline structure, chemical analysis, production, and industrial and other applications of silicon carbide and other refractory compounds. Methods of determining the basic components of refractory compounds (carbon, boron, nitrogen, and silicon) are reviewed and detailed methods for the chemical analysis of all presently known refractory compounds given. The authors are associated with the Institut metallokeramiki i spetsial'nykh splavov, AN SSSR (Institute of Powder Metallurgy and Special Alloys, Academy of Sciences USSR). No personalities are mentioned. There are 327 references: 175 Soviet and the remainder mainly English and German.

TABLE OF CONTENTS [Abridged]:

Analysis of Refractory (Cont.) SOV/6030

AVAILABLE: Library of Congress

SUBJECT: Metals and Metallurgy

BN/pw/bmc
10-30-62

Card 4/4

KUCAY, L.N.; NAZARCHUK, T.N.

Titrimetric method for the determination of molybdenum in its carbides, nitrides, borides, and silicides. Zhur.anal.khim. 17 no.9:1082-1085 D '62. (MIRA 16:2)

1. Institute of Metalloceramics and Special Alloys, Academy of Sciences, Ukrainian S.S.R., Kiev.
(Molybdenum--Analysis)
(Refractory materials)

NAZARCHUK, T.N.

Compounds of boric acid with hydroxyanthraquinone. Ukr.khim.zhur. 28 no.2:233-238 '62. (MIRA 15:3)

1. Institut metallokeramiki i spetsial'nykh splavov AN USSR.
(Boric aicd) (Anthraquinone)

KABANNIK, G.T.; NAZARCHUK, T.N.

Volumetric determination of aluminum in alloys. Zav.lab. 28 no.5:546-547 '62. (MIRA 15:6)

1. Institut metallokeramiki i spetsial'nykh splavov AN USSR.
(Aluminum alloys)

AID Nr. 995-6 19 21 June

OXIDIMETRIC DETERMINATION OF Nb IN COMPLEX ZrC-NbC MIXTURES (USSR)

Kotlyar, Ye. Ye., and T. N. Nazarchuk. Zhurnal analiticheskoy khimii, v. 18, no. 4, Apr 1963, 474-479. S/075/63/018/004/009/015

On the basis of preliminary reduction tests of Nb with Al powder, Zn dust, Zn amalgam, metallic Cd, and in cadimum reducer at various acidities of the solution, a new method was established at the Institute of Powder Metallurgy and Special Alloys of the Ukrainian Academy of Sciences for the determination of Nb in NbC and in mixed carbides of the ZrC-NbC type. The method is based on the reduction of Nb in the dissolved sample to the required constant average oxidation number of 3.02 to 3.04 by means of metallic cadmium and a cadmium reducer in a mixture of sulfuric and hydrochloric acids. The reduced Nb is then oxidized to Nb(V) with a solution of iron ammonium alum, and the Nb content is calculated from the equivalent amount of bivalent iron formed, which is determined by titration with potassium bichromate with phenylanthranilic acid indicator. The results are in agreement with data obtained from the gravimetric cupferron method.

[EDW]

Card 1/1

S/032/63/029/003/007/020
B117/B186

AUTHORS: Nazarchuk, T. N., Kopylova, V. P., and Chugunnaya, N. K.

TITLE: Determination of cerium in heat-resistant alloys and cast iron grades

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 3, 1963, 298

TEXT: A colorimetric determination of cerium in the form of peroxide compounds is impossible in the presence of iron and with Trilon B. Extraction of the cupronate with chloroform is therefore recommended for completely separating cerium from traces of Fe. 5-10 g nickel alloy (Cr-Ni-Fe) is dissolved in a mixture of hydrochloric and nitric acids, filled up with 25-50 ml H_2SO_4 (1.84), and evaporated until SO_3 vapors are formed. The solution is diluted. Chromium is oxidized with ammonium persulfate in the presence of silver nitrate, Al, Fe, and Ce hydroxides are precipitated with ammonia, the precipitation being repeated. The hydroxides are dissolved in hot saturated oxalic acid solution with addition of 1 ml 5% calcium chloride solution, and left standing overnight at pH 4-5. The oxalate precipitate is filtered off, washed out with 1%

oxalic acid solution, and calcined at 600-700°C. The resulting oxides are dissolved during heating in 10 ml H_2SO_4 (1:4) with addition of some drops of perhydrol. Then cupronate is extracted with chloroform. Excess cuprone is destroyed in aqueous fraction, and the cerium is determined. For this purpose, the colorless solution containing 1-2 ml H_2SO_4 (1.84) is mixed with 4 ml 0.1 N Trilon B solution and 10 ml glycerol, the solution is neutralized with NH_3 to a characteristic smell, 5 ml buffer solution (pH 9) and 2-3 drops of 30% hydrogen peroxide are added, diluted with water after 5 min, and the optical density is measured after 30 min. The oxidation of chromium and the filtration of the hydroxides can be omitted when determining cerium in cast iron of low chromium content.

ASSOCIATION: Institut metallokeramiki i spetssplavov Akademii nauk USSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences UkrSSR)

S/073/63/029/003/007/009
A057/A126

AUTHORS: Kornilova, V. I. Nazarchuk, T. N.

TITLE: Spectrophotometrical investigation of the formation of niobium compounds with the reagent arsenazo

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 29. no. 3, 1963, 330 - 335

TEXT: The process of formation, the composition, and the effect of pH, of oxalic, tartaric, and citric acid, of sodium fluoride and trilon B on the formation of the reddish-violet complex of niobium and arsenazo was investigated spectrophotometrically in aqueous solutions. The light absorption spectrum of the complex solution (Nb/arsenazo = 4/1) with pH = 0.65 (buffered) shows a maximum at 530 mμ, that of pure arsenazo at 520 mμ. Thus, all further measurements were carried out at 580 mμ. Since no considerable effect of the pH on the optical density of a complex solution (Nb : arsenazo = 2 : 1) was observed in the range pH = 0.65 - 3 it is assumed that hydrogen ions do not participate in complex formation. The composition of the complex was determined by the method of isomolar series and was found to be Nb : arsenazo = 2 : 1. The formation occurs

S/073/63/029/003/007/009
A057/A126

Spectrophotometrical investigation of...

schematically: $2Nb + H_6R = Nb_2 \cdot H_6R$ and the corresponding equilibrium constant is $K = \frac{[Nb]^2[H_6R]}{[Nb_2 \cdot H_6R]} = 1 \cdot 10^{-8}$. The colour of the complex solutions obeys Lambert-Beer's law in the range of niobium concentrations from 3 to 35 g/ml. An unusual effect of admixtures of NaF, oxalic, tartaric, and citric acid, and of trilon B on the colour of the complex solutions was observed. The ratio niobium : admixture was varied from 1 : 0 to 1 : 25 and up to a ratio of 1 : 2 a strong increase of the colour intensity was observed. Further addition of the admixture effects a decrease of colour intensity. The composition of the Nb-arsenazo complex does not change, but is destroyed at a tenfold excess of the admixture. The following sequence in relation to the decreasing stability of the complex compound of Nb was observed: oxalic > fluoride > trilonate > tartaric > citric acid. The initial increase of the colour of the niobium-arsenazo complex affected by addition of the admixtures is explained by a transfer of niobium into a more reactive form. Apparently the monomer cationic form of niobium reacts with arsenazo, and an addition of the complexing admixtures contributes to the formation of monomer niobium ions. Similar observations were made by other

Card 2/3

Spectrophotometrical investigation of...

authors with coloured niobium-xylenol orange compounds. According to the obtained results oxalic acid is the most favorable masking compound for niobium in acid solutions. There are 6 figures and 1 table.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Powder Metallurgy and Special Alloys of the AS UkrSSR)

SUBMITTED: June 23, 1961

KORNILOVA, V.I.; NAZARCHUK, T.N.

Colored complex of biobium with hematoxylin. Ukr. khim. zhur. 29 no.11:1205-1208 '63. (MIRA 16:12)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.

ACCESSION NR: AP4029206 S/0226/64/000/002/0046/0050

AUTHOR: Nazarchuk, T. N.; Nekhanoshina, L. N.

TITLE: The problem of oxidizability of boron carbide

SOURCE: Poroshkovaya metallurgiya, no. 2, 1964, 46-50

TOPIC TAGS: boron carbide, oxidation, boron carbide oxidation, high temperature oxidation, boron carbide purity, boron carbide refining

ABSTRACT: Free carbon has a detrimental effect on properties of boron carbide. Several strong oxidizers were tested for ability to eliminate free carbon from boron carbide. The best results were obtained with a mixture of concentrated nitric, sulfuric, and perchloric acids with potassium bichromate. Treatment of raw boron carbide with this mixture for 15-25 min reduced carbon and iron contents from 26.14—26.30% and 0.23—1.1% to 21.4—23.7% and 0.07—0.24% respectively, and increased boron content from 69.8—70.0% to 75.0—77.5%. The oxidation behavior of boron carbide powder (particle size 0.062—0.074 mm) at 500—1300C in a stream of oxygen

Card 1/2

ACCESSION NR: AP4029206

varies according to the total content of boron and carbon and the content of free boron. Generally, boron carbide begins to react with oxygen at 600C; at 700C the oxidation rate increases sharply, at 900—1000C it drops somewhat, and at 1200—1300C another sharp increase occurs. At all temperatures tested, the oxidation rate decreases with time, owing to the formation of a layer of boron trioxide on powder particles. However, at 1200—1300C boron carbide is oxidized completely. Generally, as the total carbon content rises, boron carbide becomes more oxidizable. The ratio of combined boron to total carbon, $B_C:C_T$, is suggested as a criterion for estimating the oxidizability of boron carbide. The higher the ratio, the better boron carbide resists oxidation. Orig. art. has: 3 figures, 1 formula, and 3 tables.

ASSOCIATION: none

SUBMITTED: 20Jan63	DATE ACQ: 28Apr64	ENCL: 00	
SUB CODE: CH,MA	NO REF SOV: 006	OTHER: 003	

Card 2/2

ACCESSION NR: AP4043462 S/0075/64/019/008/0980/0984

AUTHORS: Nazarchuk, T.N.; Popova, O.I.; Kugay, L.N.; Dzerzhanovskaya, Ye.V.; Kabannik, G.T.; Boremskaya, S.F.; Chugunnaya, N.K.

TITLE: Analysis of rare earth alloys with certain metals and oxides

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 8, 1964, 980-984

TOPIC TAGS: complexometric titration, rare earth analysis, lanthanum oxide, magnesium oxide, scandium oxide, yttrium oxide, chromium oxide, nickel oxide, aluminum oxide

ABSTRACT: Two methods of separation and determination of rare earth elements were worked out. The first method involved titration with complexon III at different pH of the solution in the presence of different indicators. Here the fact that tetravalent elements such as titanium and zirconium, form complexes in strongly acid solutions (pH = 1), trivalent metals at pH 2 - 3 and alkaline earth elements at pH 10 - 11 was taken into account. The second method involved the use of masking substances such as potassium cyanide, triethanolamine, ammonium fluoride, thyron, 2,3-dimercapto-propanol. The analysis

Card 1/2

ACCESSION NR: AP4043462

involved the determination of rare earths and magnesium in La_2O_3-MgO, Sc_2O_3-MgO, Y_2O_3-MgO, Cr_2O_3-La_2O_3, NiO-Sc_2O_3, La_2O_3-Al_2O_3; NiO-Sc_2O_3 and determination of lanthanum, aluminum and magnesium simultaneously in fluomicas. Orig. art. has: 8 tables.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR (Institute of Powder Metallurgy and Special Alloys, AN UkrSSR)

SUBMITTED: 29Jun63 ENCL: 00

SUB CODE: IC NR REF SOV: 004 OTHER: 002

Card 2/2

PECHENTKOVSKAYA, L.Ye.; NAZARCHUK, T.N.

Complexometric determination of zinc in iron alloys. Zhur. anal. khim. 19 no.7:897-899 '64. (MIRA 17:11)

1. Institute of Metalloceramics and Special Alloys, Ukrainian S.S.R. Academy of Sciences, Kiev.

NAZARCHUK, T.N.; POPOVA, O.I.; KUGAY, L.N.; DZERZHANOVSKAYA, Ye.V.; KABANNIK, G.T.; BOREMSKAYA, S.F.; CHUGUNNAYA, N.K.

Analysis of rare alloys with certain metals and oxides. Zhur. anal. khim. 19 no.8:980-984 '64.

(MIRA 17:11)

1. Institut metallokeramiki i spetsial'nykh splavov AN SSSR, Kiyev.

MINENKO, N.N.; NAZARCHUK, T.N.

Nitrogen determination in nitrides undecomposable by acids. Poroch. met. 5 no.6:53-54 Je '65. (MIRA 18:8)

1. Institut problem materialovedeniya AN UkrSSR.

KOPYLOVA, V.P.; NAZARENKO, V.A.

Determination of free aluminum in aluminides. Zhur. anal. khim. 20 no.7:892-893 '65. (MIRA 18:9)

1. Institut problem materialovedeniya AN UkrSSR, Kiyev.

SAMSONOV, G.V., otv. red.; GRIGOR'YEVA, V.V., kand. tekhn. nauk, red.; YEREMENKO, V.N., red.; NAZARCHUK, T.N., kand. khim. nauk, red.; FEDORCHENKO, I.M., akademik, red.; FRANTSEVICH, I.N., akademik, red.; YAROTSKIY, V.D., red.; GILELAKH, V.I., red.

[High-temperature inorganic compounds] Vysokotemperaturnye neorganicheskie soedineniia. Kiev, Naukova dumka, 1965. 471 p. (MIRA 18:12)

1. Akademiia nauk URSR, Kiev. Instytut problem materialoznavstva.
2. Chlen-korrespondent AN Ukr.SSR (for Yeremenko, Samsonov).
3. Akademiya nauk Ukr.SSR (for Fedorchenko, Frantsevich).

NAZARCHUK, Tamara Nikolayevna; [illegible], Ozyana Ivanovna. SAMOKOV, G.V., otv. red.; KOVTUNOVSKAYA, L.N., red.; [illegible], T.Ya., red.

[Complexometric analysis of ceramic metal and ceramic materials and of certain alloys] Kompleksometricheskii analiz metallokeramicheskikh i keramicheskikh materialov i nekotorykh splavov. Kiev, Naukova dumka, 1965. 120 p. (MIRA 18:9)

1. Chlen-korrespondent AN Ukr.SSR (for Samokov).

NAZARCHUK, V.P.

NAZARCHUK, V.P.; TSITOVICH, I.K. (g. Krasnodar)

Experiments with herbicides in chemistry clubs. Khim. v shkole 10 no.5:58-60 S-O '55. (MLRA 8:11)

(Herbicides)

NAZARCHUK, V.T., aspirant

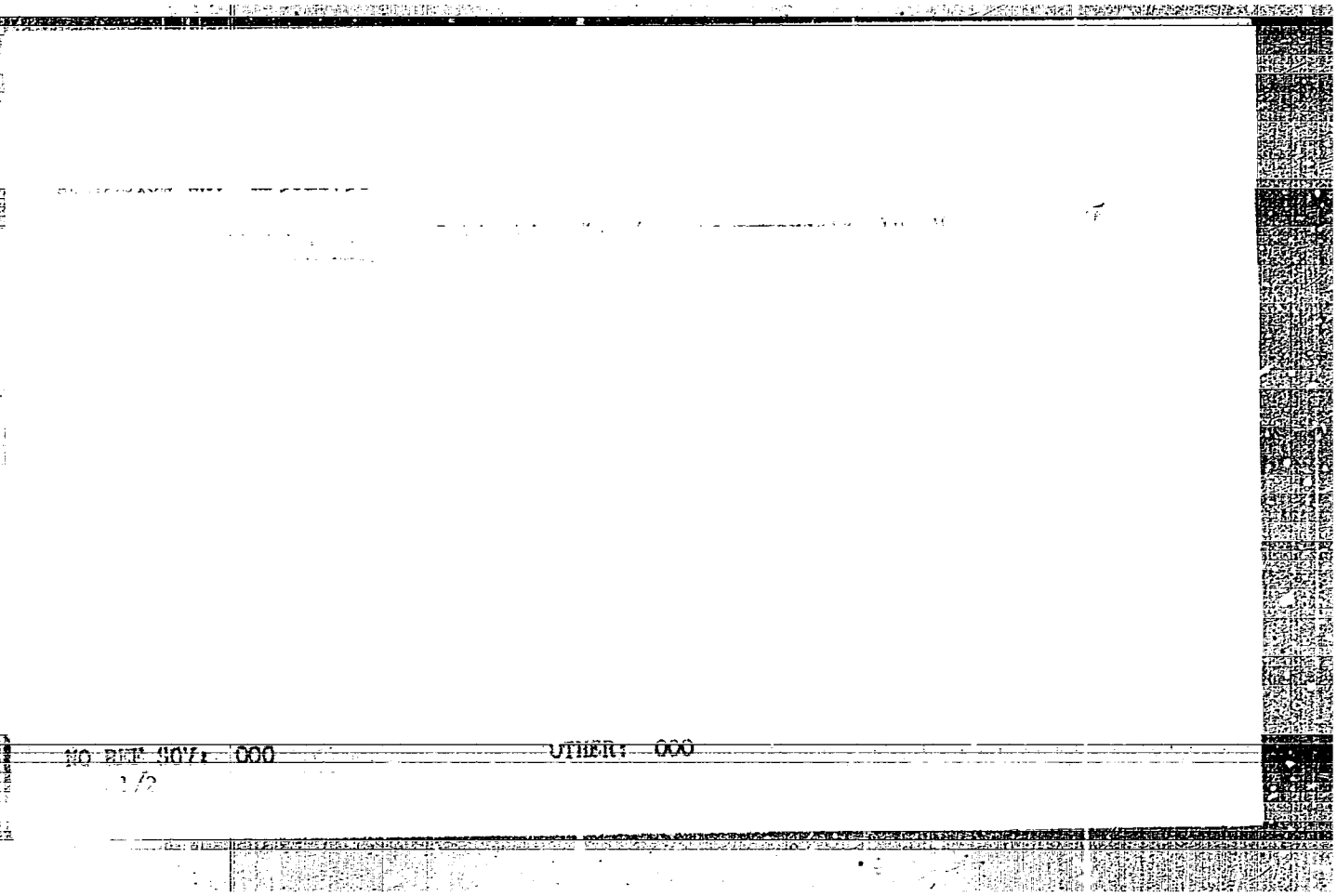
Cytological studies as an auxillary aid in the diagnosis of some vascular diseases of the oral cavity. Stomatologiia 40 no.3:14-17 My-Je '61. (MIRA 14:12)

1. Iz kafedry terapevticheskoy stomatologii (zav. - prof. I.O.Novik) Kiyevskogo meditsinskogo instituta (dir. - dotsent V.D.Bratus').
(MOUTH--DISEASES) (DIAGNOSIS, CYTOLOGIC)

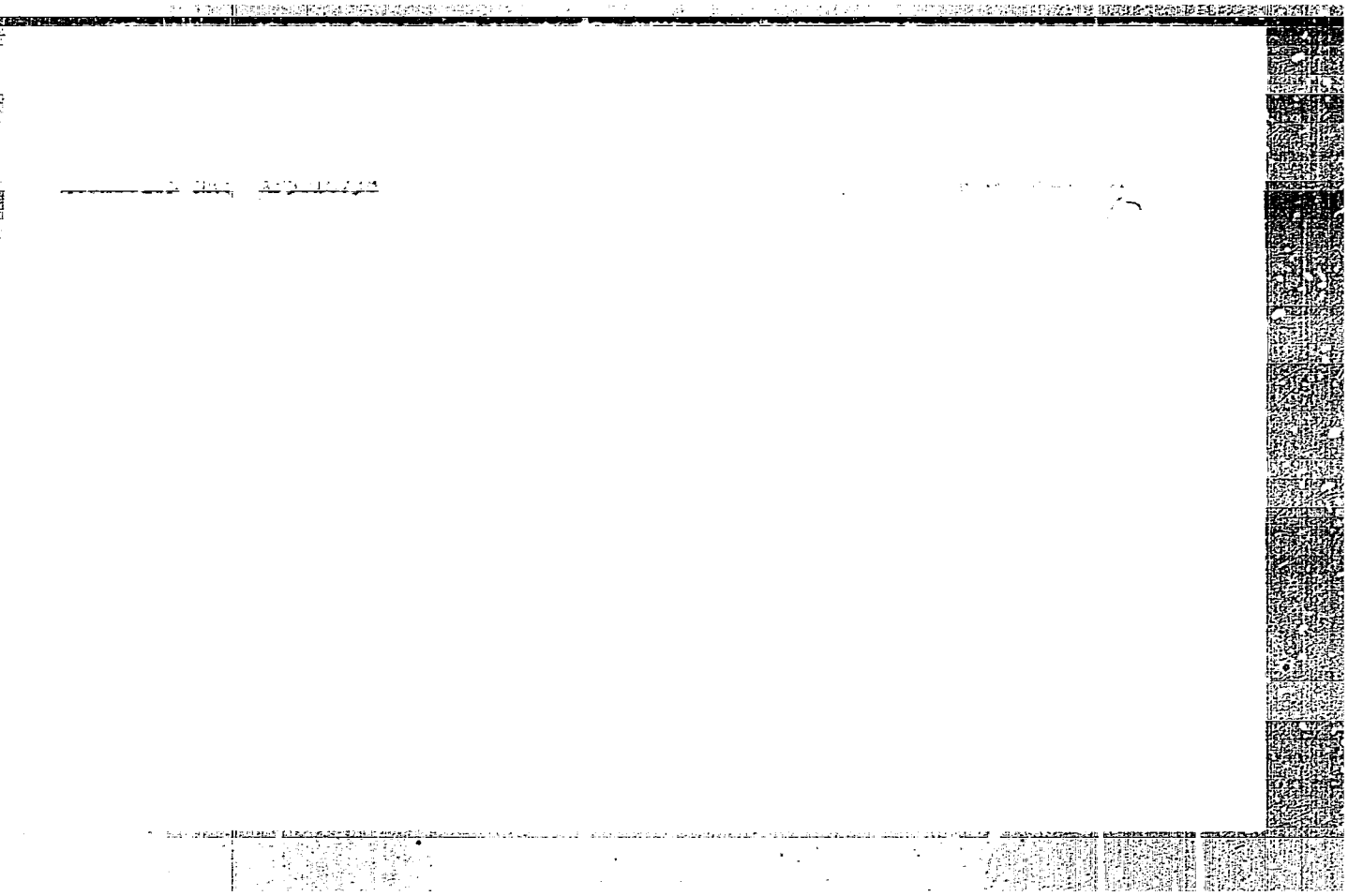
NAZARCHUK, V.T., aspirant

Some characteristics of the affection of the oral mucosa in acute leucosis. Stomatologiia 40 no.4:12-13 Jl-Ag '61. (MIRA 14:11)

1. Iz kafedry terapevticheskoy stomatologii (zav. - prof. I.O.Novik) Kiyevskogo meditsinskogo instituta (dir. - dotsent V.D.Bratus').
(LEUCOSIS) (MUCOUS MEMBRANE)



APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R001362200



KANTOR, A.A., dotsent; NAZARENKO, A.A., mekhanik

Some reconstructive changes in the surgical microscope put out by the "Krasnogvardeets" factory. Zhur.ush., nos.i gorl.bol. 22 no.2:81 Mr-Ap '62. (MIRA 15:11)

1. Kafedra bolezney ukha, gorla i nosa Ternopol'skogo meditsinskogo instituta.

(OTORHINOLARYNGOLOGY—EQUIPMENT AND SUPPLIES)

NAZARENKO, A.A.

Winter ornithofauna in the southwestern Maritime Territory.
Ornitologiia no.6:368-375 '63. (MIRA 17:6)

SHILOV, P.M., LAZARENKO, A.A.

Determination of residual stresses in electrolytic coatings.
Zav. lab. 30 no.9:1128-1129 '64. (MIRA 18:9)

1. Dnepropetrovskiy gornyy institut.

LITVINENKO, N.M.; NAVALENKO, A.A.

New findings of the painted [illegible] in [illegible] ghalensis in the southern Maritime Territory. [illegible] Vest. no.1:133-138 '63. [illegible]

1. Zapovednik "[illegible]" [illegible] Sibirskogo otdeleniya AN SSSR.

[illegible], A.A., engineer

Reconditioning worn out internal surfaces of the parts of mining machinery and equipment. Izv. VUZ 4 pt.2:30-32 '62.

Reconditioning worn-out parts of mining machinery and equipment by electrolytic steeling. Ibid.:33-35

(MIRA 18:9)

DMITRIYEV, A.V.; LEBEDEV, V.L.; NAZARENKO, A.A.

Testing methods of connection linking by hydraulic fracturing of the coal seam at the Kamensk "Podzemgaz" Plant. Trudy VNIIPodzemgaza no.12:46-52 '64. (MIRA 18:9)

1. Laboratoriya gazifikatsii kamennykh ugley Vsesoyuznogo nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.

KOZOVOY, P.Ya.; NAZARENKO, A.A., elektromekhanik

Increasing accuracy in determining distances to cable breaks.
Avtom., telem. i sviaz' 9 no.12:30-31 D '65.
(MIRA 19:1)

1. Starshiy elektromekhanik kontrol'no-ispytatel'nogo punkta Volgogradskoy distantsii Privolzhskoy dorogi (for Kozovoy).
2. Pechorskaya distantsiya Severnoy dorogi (for Nazarenko).

NAZARENKO, A. I.

Injuries

Dissertation: "Ether Narcotic Sleep and Novocaine Blockade as Factors Preventing the Developme..t of Trophic Indigestion of the Stomach in Trauma of the Spinal Cord." Cand Med Sci, Acad Med Sci USSR, 7 Apr 54. (Vecgerhyaya Moskva, Moscow, 26 Mar 54).

SO: SUM 213, 20 Sep 1954

KAZARENKO A.I.

KRAKOVSKIY, M.I., prof.; KAZARENKO, A.I., kand.med.nauk

Resection of the diaphysis of the leg bones in shortening a lengthened extremity in fibroma. Ortop.travm. i protez. 18 no.4:65 Jl-Ag '57. (MIRA 11:1)

1. Iz Instituta khirurgii im. A.V.Vishnevskogo AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A.Vishnevskiy)
(LEG--SURGERY)

NAZARENKO, A.I., kand.med.nauk, SAVEL'YEVA, T.A., (Moskva)

Therapy of gastric and duodenal ulcer. Klin.med. 36 no.9:112-116 S'58 (MIRA 11:10)

1. Iz 3-go khirurgicheskogo otdeleniya (zav. G.D. Vilyavin) Instituta khirurgii AMN SSSR imeni A.V. Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy.

(PEPTIC ULCER, ther.
electronarcosis (Rus))
(ELECTRONARCOSIS, ther. use
peptic ulcer (Rus))

NAZARENKO, A.I.

Cases of blood surrounding the dog brain in experimental epilepsy. Fiziol. zhur. [Ukr.] 5 no.5:634-638 S-O '59 (MIRA 13:3)

1. Institut fiziologii im. A.A. Bogomol'tsa AN USSR, laboratoriya sravnitel'nov i vozrastnoy fiziologii.
(EPILEPSY) (BLOOD--OXYGEN CONTENT)

VILYAVIN, G.D., prof.; NAZARENKO, A.I., kand.med.nauk

Reconstructive substitution of the resected stomach with a segment of the small intestine. Nov.khir.arkh. no.11:47-51 '61. (MIRA 14:12)

1. Tret'ye khirurgicheskoye otdeleniye (zav. - prof. G.D. Vilyavin) Instituta khirurgii im. A.V. Vishnevskogo AMN SSSR.
(STOMACH--SURGERY) (INTESTINE--TRANSPLANTATION)

VILYAVIN, G.D.; NAZARENKO, A.I.

Analysis of the surgical treatment of peptic ulcer of the stomach and duodenum. Sov. med. 25 no.4:24-29 Ap '62. (MIRA 15:6)

1. Iz Instituta khirurgii imeni A.V. Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy) AMN SSSR.

(STOMACH--SURGERY) (DUODENUM--SURGERY)

17.2.51

39280
S/219/62/053/001/007/007
I015/1215

AUTHOR: Nazarenko, A. I.

TITLE: The effect of acclimatization to hypoxia in the course of epileptoid convulsions

PERIODICAL: Byulleten' eksperimental'noy biologii i meditsiny v. 53, no. 1, 1962, 48-50

TEXT: Following experiments on 16 rats in a barochamber it was assumed that adaptation to hypoxia brings about an increased resistance of the organism to epileptogenic agents (camphor oil-ether 1:1). Another series of experiments on 30 rats high in the mountains confirmed the above-mentioned assumption and it was found that oxygen supply to the brain was a major factor in the pathogenesis of convulsions. There are 3 tables.

ASSOCIATION: Laboratoriya sravnitel'noy i vozvrastnoy fiziologii (rukovoditel' deystvitel'nvy chlen AMN SSSR N. N. Sirotinin) Instituta fiziologii imeni A. A. Bohomol'tsa (dir.-chlen-korrespondent AN USSR A. F. Makarchenko) Laboratory of Comparative and Growth Physiology (director N. N. Sirotinin, Fellow of the AMS USSR) Institute of Physiology im. A. A. Bohomelets (Dir. A. F. Makarchenko, Fellow Correspondent of the AS Ukr.SSR), Academy of Sciences UkrSSR) Kiev.

SUBMITTED: September 23, 1960

Card 1/1

ACCESSION NR: AT4042673 S/0000/63/000/000/0146/0149

AUTHOR: Danileyko, V. I.; Nazarenko, A. I.; Savchenko, O. S.

TITLE: Respiration of white rats during prolonged action of radial acceleration

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy* konferentsii. Moscow, 1963, 146-149

TOPIC TAGS: acceleration effect, respiration, rat, transverse acceleration, oxygen exchange, tissue respiration, oxygen consumption, body temperature

ABSTRACT: White rats were subjected to the action of transverse accelerations on centrifuges for the purpose of determining their effect on external respiration, oxygen exchange with the blood in pulmonary circulation, and tissue respiration. Measurements were made of the body temperatures of all rats. Part of the rats were then killed and their brain, liver, and kidney

Card 1/3

ACCESSION NR: AT4042673

temperatures measured. In ten of the rats, kidney temperatures were measured during acceleration. It was found that when rats were subjected to accelerations of 2 to 30 g the intensity of oxygen consumption increased. In contrast to animals with a large body mass (man, monkeys, dogs, etc.), in which external respiration is diminished when they are subjected to accelerations of 7 to 10 g, rats showed a significant increase in oxygen consumption, even when subjected to 17 g for five minutes. Bod y temperature of the rats rose after the experiments by 3 to 8° C and the temperature of the internal organs by 3 to 5° C. Disruption of respiratory movements was observed in animals subjected to accelerations of 22 to 26 g for fifteen minutes. When subjected to 28 g, motor disturbances appeared during the first two or three minutes; when subjected to 50 g, they appeared during the first minute. When rats were subjected to a 50-g acceleration for one and one-half minutes, a statistically significant increase in oxygen consumption by brain tissue was noted. After prolonged acceleration a definite drop in the temperature of the entire body was observed. In some cases this drop was as great as 10° C. This phenomenon, which was designated "post-gravitational hypothermy," was

Card 2/3

ACCESSION NR: AT4042673

accompanied in the experiments by an increase in oxygen consumption.

ASSOCIATION: none

SUBMITTED: 27Sep63 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000

Card 3/3

ALIYEV, G.A. (Moskva); BUSLENKO, N.P. (Moskva); KLIMOV, G.I. (Moskva); MAZARENKO, A.I. (Moskva); Prinimali uchastiye: POLYAKOVA, N.A.; DATSKEVICH, R.T.; GAYDABURA, L.A.

Modeling of the operation of an automated furnace machine for welding pipes. Probl. kib. no.9:211-240 '63. (MIRA 17:10)

1. Elektrostal'skiy zavod tyazhelogo mashinostroyeniya (for Polyakova, Datskevich, Gaydabura).

KOBOZEV, V.V.; NAZARENKO, A.I.

Mathematical modeling of the operation of a section mill.
Izv. AN SSSR Tekh. kib. no.2.12-23 Mr-Ap'64. (MIRA 17:5)

1. Elektrostal'.

LOVLYA, A.D.; NAZARENKO, A.I., kand. tekhn. nauk

Rollability of welded butt joints on continuous sheet mills for cold rolling. Stal' i gornorud. prom. no.3: 36-38 My-Je '65. (MIRA 18:11)

KRASOVITSKIY, B.M.; NAZARENKO, A.I.

Study in the series of azomethine bases. Part 3: Synthesis of bis-azomethine derivatives of 2,7-diaminofluorene and study of their absorption spectra. Ukr. khim. zhur. 31 no.9:942-947 '65.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut monokristallov, stsintillyatsionnykh materialov i osobo chistykh khimicheskikh veshchestv.

NAZARENKO, A.M.

Adjust the students' experimental work to the level of the new tasks. Politekh.obuch. no.3:40-44 Mr '59. (MIRA 12:4)

1. Balashovskiy pedagogicheskiy institut.
(Saratov Province--Field work (Educational method))

NAZARENKO, A.M.

Planning students' practical work in agriculture. Politekh.obuch. no.5:31-35 My '59. (MIRA 12:7)

1. Balashovskiy pedagogicheskiy institut.
(Balashov District--Agriculture--Study and teaching)
(Field work (Educational method))

NAZARENKO, A.M.

Students' field work in livestock breeding. Politekh.obuch. no.11:32-37 N '59. (MIRA 13:2)

1. Balashovskiy pedagogicheskiy institut.
(Saratov Province--Stock and stockbreeding--Study and teaching)

KARPOV, P.A.; SHEVCHENKO, V.I.; TEBYAKIN, V.V.; NECHAYEVA, M.A.; NAZARENKO, A.M.

Unconformity in the Upper Frasnian substage in the western part of Volgograd Province. Geol. nefti i gaza 7 no.12:41-44 D '63. (MIRA 17:8)

KARPOV, P.A.; NAZARENKO, A.M.; NECHAYEVA, M.A.; SHEVCHENKO, V.I.

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NAZARENKO, A.N., kand.med.nauk (Kiyev, ul. Polevaya, d.1056, kv.6)

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1. Kafedra khirurgii 1 Kiyevskogo instituta usovershenstvovaniya vrachey.

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NAZARENKO, A.N., kand.med.nauk; OGIY, P.Ye., kand.med.nauk

Causes of mortality in surgical treatment of the pronounced thyrotoxic form of goiter. Vrach.delo no.11:1167-1169 N '59.
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1.Khirurgicheskaya klinika (zaveduyushchiy - prof. V.I. Akimov) Kiyevskogo instituta usovershenstvovaniya vrachey.
(THYROID GLAND--SURGERY)

NAZARENKO, A.N., dotsent

Helping public health institutions. Vrach. delo no.9:120-122 S '61.
(MIRA 14:12)

1. Kiyevskiy institut usovershenstvovaniya vrachey.
(UKRAINE--PUBLIC HEALTH RESEARCH)

L 07057-67 EWT(m) JR

ACC NR: AP6021633 SOURCE CODE: UR/0089/66/020/003/0275/0277

AUTHOR: Novikov, S. R.; Konopleva, R. F.; Kruglikov, A. M.; Nazarenko, A. N.

ORG: none

TITLE: Low temperature channel of the VVR-M reactor of the Physicotechnical Institute, AN SSSR

SOURCE: Atomnaya energiya, v. 20, no. 3, 1966, 275-277

TOPIC TAGS: nuclear reactor component, irradiation apparatus, research reactor/ VVR-M reactor

ABSTRACT: The authors describe a through channel in which the samples are cooled with cold gaseous nitrogen. This makes it possible to employ ordinary commercial liquid nitrogen, and also to reload the samples and to vary their temperature in simple fashion. The reason why liquid nitrogen cannot be used for this purpose is briefly discussed. The cold nitrogen is fed from a liquid-nitrogen evaporator outside the reactor, flows through the cryostat channel, and is drawn out by a ventilating system. If the liquid nitrogen contains ~1% of argon, the activity of the radioactive Ar^{41} does not exceed 5 millicurie/hr at a reactor power of 10 MW. The construction of the installation (Fig. 1) and the method of manipulating the samples are described. The channel described was installed in the VVR-M reactor in March 1964, and apart from accidental loss of hermeticity, which was later eliminated, it withstood many tests with large temperature differentials. Besides the simplicity of construction and

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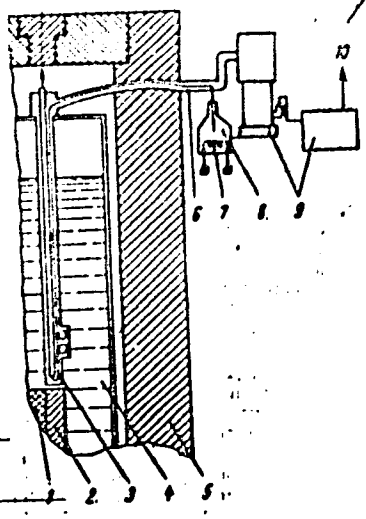

Fig. 1. Equipment for low-temperature irradiation. 1 - Active zone, 2 - beryllium reflector, 3 - cryostatic channel, 4 - water in reactor tank, 5 - shield, 6 - nitrogen pipe, 7 - heater, 8 - evaporator vessel, 9 - vacuum pumps, 10 - special ventilation.

possibility of using commercial liquid nitrogen, another advantage is the wide range of variation of the temperature. A shortcoming is the large consumption of liquid nitrogen when temperatures of the order of 100K are obtained. The authors thank the operating crew of the reactor for help, and are especially indebted to designers A. L. Voinov and L. D. Baranova for participating in the development of units of the apparatus, and mechanics G. I. Pastalak and A. F. Klement'yev for installing the apparatus in the reactor. Orig. art. has: 3 figures.

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