2(5)

AUTHORS: Sakharov, V. N., Kolesnikov-Svinarev, V. I., SOV/20-124-2-20/71
Nazarenko, V. A., Zabidarov, Ye. I.

TITLE: The Areal Distribution of Earth Ejected by Subterranean Explosions (Raspredeleniye na mestnosti grunta, vybrasyvayemogo pri podzemnykh vzryvakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 2, pp 314-317 (USSR)

ABSTRACT: The Institut khimicheskoy fiziki AN SSSR (Institute for Chemical Physics, AS USSR) collected experimental material concerning the distance of ejection of various portions of earth ejected by an explosion. The material is in many respects of some interest. When carrying out such experiments, it is necessary first to divide the area of ground before the explosion takes place within range of the crater to be formed into sections, and after the explosion the manner in which the fragments of earth are distributed over the said area must be determined. Various parts of the area were marked by means of radioactive indicators. Before the explosion 50-60 ampoules containing 1 millicurie Sb^{124} were introduced into the soil

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through narrow cracks. 20 of such explosions were carried out in this manner with from 10 kg to 10 t ammonite Nr 6 at various depths both in loess and in loam. Further, 1 00 tons of ammonite Nr 6 were exploded in a depth of 40 m. The characteristic results given by 2 diagrams permit the following conclusions to be drawn: 1) The direction into which each particle of earth is ejected leads, when traced back in the opposite direction, through the center of the explosion. The direction in which that part of the ground which is located immediately above the charge is ejected is indefinite. 2) The distance covered by each ejected part of the earth is determined by its position with respect to the charge and varies, with conditions otherwise being unchanged, within the margin of ± 30%. 3) The dependence of the distance of flight from the position of the respective part of the ground before the explosion is shown by a nomogram. The smaller the angle between the radius and the axis of the crater, the farther will the earth be thrown. This dependence is commented upon in detail by the authors. These regularities are qualitatively the same with all explosions of charges of different strength. The maximum distance covered by the ejected earth increases only

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Ejected by Subterranean Explosions

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slightly with an increase of the charge. With conditions otherwise remaining unchanged this distance decreases with an increase of the depth w of the charge at the rate of $1/w^4$. All this holds for explosions in loess, and for powerful explosions in loam, but not for weak explosions (10-100 kg) in solid loams. In the latter case no permanent regularities were found. Finally, the authors thank M. A. Sadovskiy, Corresponding Member, AS USSR, for bringing up the problem, and V. N. Rodionov for his collaboration in organizing the above described work as well as for discussing the results. V. A. Rogachkov and V. A. Shabashev are gratefully mentioned as having rendered practical assistance.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute for Chemical Physics of the Academy of Sciences, USSR)

PRESENTED: September 10, 1958, by V. N. Kondrat'yev, Academician

SUBMITTED: September 15, 1958

Card 3/3

NAZARENKO, V. A., Doc Chem Sci -- (diss) "Study of the mechanism of colored reactions of germanium with hydroxyl-containing organic compounds." Moscow, 1960. 25 pp; (Academy of Sciences USSR, Inst of Geochemistry and Analytical Chemistry im V. I. Vernadskiy); 150 copies; price not given; list of author's work on pp 23-25; (KL, 22-60, 131)

NAZARENKO, V.A.; VINKOVETSKAYA, S. Ya. [Vinkovets'ka, S.IA.]

Analytical use of complex compounds of boron with phenolcarboxylic acids. Dop.AN URSR no.2:196-197 '60. (MIRA 13:6)

1. Institut obshchey i neorganicheskoy khimii AN USSR. Predstavleno akademikom AN USSR A.K.Babko.
(Acids) (Boron compounds)

86161
S/075/60/015/003/016/033/XX
B005/B066

5 5300 2209

AUTHORS: Nazarenko, V. A. and Biryuk, Ye. A.

TITLE: A Sensitive and Selective Photometric Method of Determining Titanium by Means of Disulfo-phenylfluorone

X

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol. 15, No. 3, pp. 306 - 310

TEXT: Derivatives of 2,3,7-trihydroxy-6-fluorone which are substituted at C_9, give color reactions with titanium in weakly acid solution (Ref. 1). Most of these derivatives however hydrolyze at high pH, and precipitate. By introducing sulfo groups into the molecule of trihydroxy-fluorone the tendency toward hydrolysis may be eliminated and the sensitivity of the color reactions is increased. Such a highly sensitive reagent for the photometric determination of titanium is 9-(2',4'-disulfo-phenyl)-2,3,7-trihydroxy-6-fluorone (I), the synthesis of which has already been described earlier (Ref. 4).

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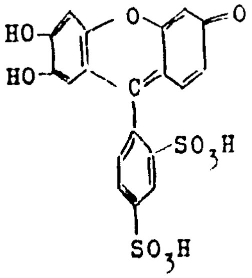
S/075/60/015/003/016/033/XX
B005/B066

A Sensitive and Selective Photometric Method of Determining Titanium by Means of Disulfophenylfluorone


(I)

Of five derivatives of trihydroxy fluorone with different substituents R at C_9 (R = propyl-; trichloro-methyl-; phenyl-; o-hydroxy-phenyl-; o-nitrophenyl-; 2,4-disulfophenyl-;) the above reagent has the highest sensitivity for the titanium determination (Table 1). The authors of the present paper determined the optimum conditions for the titanium determination with an alcoholic solution of disulfophenyl trihydroxy fluorone. The optimum pH value for the determination lies at 6 and is best brought about by means of a pyridine-hydrochloric acid buffer solution. At this pH the

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A Sensitive and Selective Photometric Method of Determining Titanium by Means of Disulfophenylfluorone

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B005/B066

molar extinction coefficient of the violet complex solution has the value 108000. The optical densities of solutions of the complex were measured in a ФМС-56 (FMS-56) photometer with a color filter permeable to light of the wave length 570 $m\mu$. The absorption curves of solutions of the pure reagent and of the titanium complex at pH 6 were taken in a СФ-4 (SF-4) spectrophotometer. The absorption maximum of the complex lies at 570 $m\mu$, where the pure reagent absorbs to a very small extent (Fig 2). The composition of the complex was investigated by two ways: by the method of isomolar series and by the method of molar proportions. Titanium was found to react with disulfophenyl trihydroxy fluorone in a molar ratio of Ti : R = 1 : 2. The solutions of the complex obey Beer's law (Fig.6). The least titanium quantity determinable is 0.01 μg/ml. The maximum coloration of the solution is attained 10 minutes after the reagent is added, and remains stable for 12 hours. The disturbing influence of germanium, tin(IV), antimony(III), and molybdenum may be eliminated by masking with thioglycolic acid; zirconium, aluminum, and iron may be masked with complexon III. The optimum quantities of these masking substances are 0.3 ml 10% thioglycolic acid, 0.1-0.3 ml of a 10% complexon solution for

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A Sensitive and Selective Photometric Method of Determining Titanium by Means of Disulfophenylfluorone

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B005/B066

5 ml solution. The authors used the described method to determine traces of titanium in pure germanium and silicon. After dissolution of the sample most of the germanium is distilled off in the form of tetrachloride, whereas in the case of silicon most of it is distilled off as silicon tetrafluoride. Titanium is determined in the residue by the method described. In this way up to $5 \cdot 10^{-6}\%$ titanium may be determined in silicon or germanium. The course of the determination is described in detail, and Table 3 shows some of the results obtained. The present paper has been presented at the section of analytical chemistry of the VIII Mendeleyevskiy s"yezd po obshchey i prikladnoy khimii (VIII Mendeleyev Congress on General and Applied Chemistry). There are 6 figures, 3 tables, and 6 references: 5 Soviet and 1 Indian.

X

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, laboratorii v Odesse (Institute of General and Inorganic Chemistry AS UkrSSR, Laboratories in Odessa)

SUBMITTED: April 7, 1959

Card 4/4

NAZARENKO, V.A.; VINKOVETSKAYA, S.Ya.

Solubility product of gallium dibromohydroxyquinolinate. Ukr. khim.zhur. 26 no.1:107-109 '60. (MIRA 13:5)

1. Institut obshchey i neorganicheskoy khimii AN USSR, Laboratorii v Odesse.
(Gallium compounds)

NAZARENKO, V.A.; FUGA, N.A.; FLYANTIKOVA, G.V.; ESTERLIS, K.A.

Analysis of pure metals; determination of admixtures of lead and zinc in indium and thallium. Zav.lab. 26 no.2:131-135 '60. (MIRA 13:5)

1. Institut obshchey i neorganicheskoy khimii Akademii nauk USSR.

(Lead--Analysis)
(Zinc--Analysis)
(Indium)
(Thallium)

SHITAREVA, G.G.; NAZARENKO, V.A.

Trihydroxyfluorone derivatives as reagents for tellurium.
Zhur.prikl.khim. 33 no.7:368-372 Jl '60.
(MIRA 13:7)

1. Institut obshchey i neorganicheskoy khimii AN USSR, laboratorii v Odesse.
(Tellurium--Analysis) (Isoxanthenone)

S/073/60/026/003/007/011/XX
B023/B060

AUTHORS: Shitareva, G. G. and Nazarenko, V. A.

TITLE: Derivatives of Trioxy Fluorone as Reagents on Tellurium

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 3, pp. 368-372

TEXT: The authors wanted to find out the behavior of tetravalent tellurium toward compounds containing the orthooxy quinone grouping and being reagents for ions of the tetravalent metals germanium, lead, titanium, zirconium, hafnium, and thorium. The authors were particularly interested in the derivatives of trioxy fluorone and examined a total of 15 derivatives of 2,3,7-trihydroxy-6-fluorone. Experiments revealed that at pH 4-6 the tetravalent tellurium reacts with the majority of the trioxy fluorones examined. The trioxy fluorones specified in Table 1 were the most sensitive in reacting. The substituents on C_9 were 1) propyl, 2) β-hydroxy-α-naphthyl, 3) 4-hydroxy-3-methoxy phenyl, 4) 2-methoxy-3,4-methylene dihydroxy-6-ethyl-β-methyl amino phenyl, 5) trichloro methyl, 6) 4-nitrophenyl, 7) 5-nitro-2-hydroxy phenyl, 8) 3-nitro-2-hydroxy phenyl. Reagents 1, 2, 5, and 6

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Derivatives of Trioxy Fluorone as Reagents on Tellurium

S/073/60/026/003/007/011/XX
B023/B060

have a sensitivity of 0.2 γ/ml, and the reagents 3, 4, and 7, a sensitivity of 0.4 γ/ml. The introduction of ethyl alcohol into the solution prevents the reagents from co-precipitating, but it also prevents their reacting with tellurium. No more than 10% alcohol must be contained in the solution. With 20% alcohol, tellurium does not react at all. A study of the specificity showed that under these conditions trioxy fluorones react with Al, Fe, Sc, Au (III), In, Ge, Sn (IV), Sb (III), Ti, Zr, W, Mo, U, Ta, Nb, V (V). Te (VI), As(V), and Sb (V) do not react. Se reacts neither in tetra- nor in hexavalent form. Summing up: The derivatives of 2.3.7-trioxy fluorone substituted on C_9 in weakly acid medium (pH 4-6) with tetravalent tellurium give rise to colored complexes, whose composition corresponds to the ratio Te:R = 1:2. It was proved that 9-propyl-2,3,7-trihydroxy-6-fluorone (propyl fluorone) and 9-β-hydroxy-α-naphthyl-2,3,7-trihydroxy-6-fluorone (β-hydroxy α-naphthyl fluorone) are suited for the photometric determination of tellurium. The solutions of complexes at optimum pH 4-5.6 obey Beer's law at a tellurium concentration of 0.4 - 2.4 γ/ml. Table 2 shows the determination of tellurium in the presence of other elements. There are 4 figures, 2 tables, and 3 references: 1 Soviet, 1 US, and 1 Japanese.

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Derivatives of Trioxy Fluorone as Reagents on Tellurium
S/073/60/026/003/007/011/XX
B023/B060

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, Laboratoriya v Odesse (Institute of General and Inorganic Chemistry of the AS UkrSSR, Laboratory in Odessa)

SUBMITTED: April 6, 1959

Таблица 2

Определение теллура в присутствии других элементов

1) Взято Te, γ	2) Добавлено, мг	3) Найдено γ
10	Se—1	11
10	Se—10	10
20	As(V)—0,2	21
20	Au—0,05	20
10	Bi—0,1	10,5
20	Bi—0,5	20
40	Fe(III)—0,05 Al—0,05	40

Legend to Table 2: 1: weighed portion Te, γ; 2: admixture, mg; 3: value found. This lecture was delivered at the Section of Analytical Chemistry of the VIII Mendeleyev Congress on General and Applied Chemistry.

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Card 3/3

07104

S/032/60/026/012/002/036
[illegible] B056

5.5230 1273, 1350 only

AUTHORS: Shustova, M. B., Nazarenko, V. A.

TITLE: Analysis of Pure Metals. Determination of Vanadium Impurities in Titanium

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 12, pp. 1339-1341

TEXT: In the present paper, the use of a method of determining vanadium quantities of less than one microgram (Ref. 1), which is based upon the catalytic acceleration of the aniline oxidation by potassium chlorate in the presence of oxine as activator (Ref. 2), is demonstrated by determining microquantities of vanadium in titanium. Under the conditions mentioned, the solution becomes yellowish-brown in the presence of vanadium, while otherwise the solution is light-yellow. The sensitivity of the reaction is increased by heating, but after a longer period of heating, dim solutions are formed, which cannot be photometrized. The reaction product may be extracted by means of organic solvents (ethyl or amyl acetates, isoamyl alcohol), in which case the extracts are brownish-red. During extraction of the reaction products, the detection limit is 0.01 γ-vanadium in 100 ml

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S/032/60/026/012, 002, 036
B020/B056

Analysis of Pure Metals. Determination of Vanadium Impurities in Titanium

solution (maximum dilution 1 : 10^{10}). The light absorption curves of the ethyl acetate extracts obtained in the manner described in the absence and presence of 0.2γV are given in Fig. 1. They were recorded at the optimum wave length of 390 mμ. Fig. 2 shows the dependence of the optical density of the extracts on the quantity of vanadium during measurement in relation to the ethyl acetate by means of the spectrophotometer СФ-4 (SF-4) at 390 mμ and by means of the horizontal photometer ФМС-56 (FMS-56) with the light filter МС-47 (MS-47) at 465 mμ. Larger quantities of titanium disturb, because they bind oxine; in quantities of up to 500γ, titanium may be masked by the addition of ammonium tartrate. In this case the sensitivity is reduced to one fifth. Up to 500γ iron may be masked by the addition of pyrophosphate without disturbing; also platinum does not disturb. The best results were obtained in the extraction with isoamyl alcohol. In this case vanadium can be quantitatively extracted at pH=5. Here, ammonium tartrate must, however, be added, which binds titanium to a complex; otherwise, the latter is precipitated. The results obtained show that by this method up to $5 \cdot 10^{-5}$% V in 0.1 g titanium may be determined (Table). The method is not suited for analysis of titanium, which contains some tenths or hundredths of molybdenum. Molybdenum in quantities lower than

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37704

Analysis of Pure Metals. Determination
Vanadium Impurities in Titanium

S/032/60/026/012/002/036
B010/B056

0.001% does not disturb the determination of vanadium. There are 2 figures, 1 table, and 7 references: 4 Soviet, 1 Austrian, and 2 Japanese.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute of General and Inorganic Chemistry of the Academy of Sciences of the UkrSSR)

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NAZARENKO, V. A.,

"The analysis of high-purity substances"

report to be submitted for the Intl. Symposium on Pure Substances in Science and Technology, E. German Chem. Soc. Dresden, E. Germany
30 November-2 December 1961

NAZARENKO, V. A.

PHASE I BOOK EXPLOITATION SOV/5777

Vinogradov, A. P., Academician, and D. I. Ryabchikov, Doctor of Chemical Sciences, Professor, Resp. Eds.

Metody opredeleniya i analiza redkikh elementov (Methods for the Detection and Analysis of Rare Elements) Moscow, Izd-vo AN SSSR, 1961. 667 p. Errata slip inserted. 6000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo.

Ed. of Publishing House: M. P. Volynets; Tech. Ed.: O. Gus'kova.

PURPOSE: This book is intended for analytical chemists and for students of analytical chemistry.

COVERAGE: The handbook was published in accordance with a decision of the Vsesoyuznoye soveshchaniye po analizu redkikh elementov (All-Union Conference on the Analysis of Rare Elements) called

~~Card 1/5~~

together by the Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta Ministrov SSSR (State Scientific and Technical Committee of the Council of Ministers of the USSR) and the Academy of Sciences USSR in December, 1959. The material is arranged in accordance with the group position of elements in the periodic system, and each section is prefaced by an article discussing the analytical methods most used in the Soviet and non-Soviet countries. Each section deals with the physical, physicochemical, and chemical methods for the analysis of raw materials, semi-products, and pure metals, and is accompanied by an extensive bibliography listing works published in the field in recent years. The following are mentioned for their help in preparing the book for publication: I. P. Alimarin, G. N. Bilimovich, A. I. Busev, E. Ye. Vaynshteyn, M. P. Volynets, V. G. Goryushina, A. M. Dymov, S. V. Yelinson, O. Ye. Zvyagintsev, G. M. Kolosova, Ye. K. Korchemnaya, V. I. Lebedev, G. A. Malofeyeva, B. N. Melent'yev, V. A. Nazarenko, I. I. Nazarenko, T. V. Petrova, N. S. Poluektov, A. I. Ponomarev, V. A. Ryabukhin, N. S. Stroganova, and Yu. A. Chernikhov.

Methods for the Detection (Cont.) SOV/5777

AVAILABLE: Library of Congress

JA/rsm/ec
12-1-61

Card 5/5

ALIMARIN, I.P.; BILIMOVICH, G.N.; BUSEV, A.I.; VAYNSHTEYN, E.Ye.; VOLYNETS, M.P.; GORYUSHINA, V.G.; DYMOV, A.M.; YELINSON, S.V.; ZVYAGINTSEV, O.Ye.; KOLOSOVA, G.M.; KORCHEMNAYA, Ye.K.; LEBEDEV, V.I.; MALOFEYEVA, G.A.; MELENT'YEV, B.N.; NAZARENKO, V.A.; NAZARENKO, I.I.; PETROVA, T.V.; POLUEKTOV, N.S.; PONOMAREV, A.I.; RYABUKHIN, V.A.; STROGANOVA, N.S.; CHERNIKHOV, Yu.A.; VINOGRADOV, A.P., akademik, otv. red.; RYABCHIKOV, D.I., doktor khim. nauk, prof., otv. red.; GUS'KOVA, O., tekhn. red.

[Methods for the determination and analysis of rare elements] Metody opredeleniia i analiza redkikh elementov. Moskva, 1961. 667 p. (MIRA 14:7)

1. Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii. (Metals, Rare and minor)

S/137/62/000/003/170/191
A160/A101

AUTHORS: Nazarenko, V. A.; Shustova, M. B.

TITLE: Determination of tantalum in lean ores by colorimetric means

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 3, abstract 3 K 9. ("Khim., fiz.-khim. i spektr. metody issled. rud redk. i rasseyan. elementov", Moscow, Gosgeoltekhizdat, 1961. 83 - 91)

TEXT: It has been established that all trioxyfluoron derivatives can be used as reagents for Ta, yet the most sensitive and specific one of them is 9-paradimethyl aminophenyl-2, 3, 7-trioxy-6-fluoron, called dimethyl fluoron (I). The initial Ta water-base solution is evaporated to dryness in a Pt-bowl. The radical is subjected to a slight calcination, treated with 2 ml HF, evaporated to dryness, supplemented with 20 ml of a 5 % H_3BO_3, then again evaporated to dryness. Then it is melted at 500 - 600°C, supplemented with 5 g K persulfate and fused with it at 600 - 650°C. The melt is dissolved in 2.5 ml of a 4 % $H_2C_2O_4$, transferred into a 50 ml flask, neutralized for α-dinitrophenol with the aid of 1 normal KOH solution until the appearance of a slightly noticeable yellow

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S/137/62/000/003/179/191
A160/A101

Determination of tantalum in lean ....

color. Then the composition is supplemented with 2.5 ml of 2 normal HCl and the flask is filled with water up to mark. The aliquot part of the solution, containing 5 - 50 γ Ta, is put into a colorimetric test tube, whereupon the latter is filled to 10 ml with a solution for dilution (10 g H_3BO_3 is fused together with K pyrosulfate. The melt obtained is dissolved in 25 ml of a 4 % $H_2C_2O_4$, diluted with water, neutralized with 1 normal KOH solution, as described above, then supplemented with 25 ml of 2 normal HCl and filled with water up to 500 ml) of 1 ml of an 1 % gelatin solution, and intermixed. Then 0.4 ml of a 0.05 % alcohol solution (I) is added and the content is intermixed again, after the test tube has been plugged with cork. Now the test tube is immersed for 3 minutes into boiling water, then left in hot water to cool off whereupon it is left alone to develop color. An amount of 0.5 ml H_2O_2 is added, the test tube is shaked-up, and the intensity of coloration is determined after 1[illegible] minutes, at 530 mμ, or using a green light filter for the closed test (10 ml of the diluent, 1 ml gelatin and 0.4 ml of the solution (I)). Determination process is carried-out with the use of calibrated graphs. Ta was separated from inhibiting and concomitant elements by precipitating earth "acids" with tannin, from a 3 - 5 %

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S/137/62/000/003/179/191
A160/A101

Determination of tantalum in lean ....

H_2SO_4 and by extracting the Ta fluoro-complex with a mixture of acetone [illegible]-butanol, adding some $(NH_4)_2SO_4$. For analyzing metallic Nb and Nb-rich ores. Use was made of an additional precipitation of Ta from an 0.1 normal HCl oxalate solution containing K pyrosulfate, with the aid of (I). The sensitivity of determination of Ta was 0.001 %.

N. Gertseva.

[Abstracters note: Complete translation]

Card 3/3

S/137/62/000/001/225/237
A154/A101

AUTHOR: Nazarenko, V. A.

TITLE: The present state of the analytical chemistry of germanium

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 8, abstract 1K52 (V sb. "Metody opredeleniya i analiza redk. elementov". Moscow, AN SSSR, 1961, 400-461)

TEXT: This review describes methods for the following: Spectral determination of low contents of Ge in silicate rocks; quantitative spectrographic determination of Ge in oxide Fe-ores and coal ashes; polarographic determination of Ge; photometric determination of Ge with phenylfluorone; alkalimetric determination of Ge in industrial concentrates; spectral determination of Ge in the ashes of mineral coals; spectral determination of Si, Fe, Al, Sn and Sb in Ge and its dioxide; radioactivation determination of admixtures in rare-earth elements, Sb, Mo, Cu and Zn in Ge; neutro-activation determination of micro-admixtures of Cu, Zn, Mn, Sb, In, Ga, Au in Ge with the aid of scintillation γ-spectrometry. Chemical determination of admixtures in germanium dioxide

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The present state of the analytical ... S/137/62/000/001/225/237
A154/A101

and metallic Ge; oscillographic determination of admixtures of Cu, Pb, Zn, Ni, Fe and Ag in high-purity metallic Ge. There are 310 references.

I. Golubeva

[Abstracter's note: Complete translation]

Card 2/2

S/032/61/027/001/002/037
B017/B054

AUTHORS: Nazarenko, V. A. and Shustova, M. B.

TITLE: Determination of Iodine Microimpurities in Elementary Silicon

PERIODICAL: Zavodskaya laboratoriya, 1961, Vol. 27, No. 1, pp. 15-16

TEXT: A method was developed to determine iodine microimpurities in silicon. The impurities are extracted with benzene after oxidation of the iodide to elementary iodine. The course of analysis is indicated: 1 or 0.5 g of finely ground silicon is dissolved in a 20-ml 3 N sodium hydroxide solution which is heated simultaneously. 5 ml of sulfuric acid 1:1 is added to the solution, and water is added until an amount of 150 ml is reached. The sample is placed in a separating funnel, mixed with sodium nitrite, and twice extracted with benzene. The iodine content is determined colorimetrically. Results are given in a table. By this method it is possible to determine 0.5 γ of iodine in 1 g of silicon, i.e., $5 \cdot 10^{-5}$%. This method is mainly intended for semiconductor silicon which contains small iodine impurities after production by the iodide method. There is 1

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Determination of Iodine Microimpurities in Elementary Silicon

S/032/61/027/001/002/037
B017/B054

table.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute of General and Inorganic Chemistry, Academy of Sciences UkrSSR)

Card 2/2

NAZARENKO, V.A.; FLYANTIKOVA, G.V.

Complex compounds of germanium with chloranilic acid.
Zhur.neorg.khim. 7 no.10:2335-2339 O '62. (MIRA 15:10)

1. Institut obshchey i neorganixheskoy khimii AN UkrSSR.
(Germanium compounds) (Benzoquinone)

NAZARENKO, V.A.

"Organic reagents in analytical chemistry." Zhur.anal.khim. 16 no.5:655-656 S-O '61. (MIRA 14:9)

(Chemistry, Analytical)

S/032/61/027/011/00 /0 6
B106/B110

AUTHORS: Nazarenko, V. A., and Flyantikova, G. V.

TITLE: Determination of iron microquantities in indium and gallium

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 11, 1961, 1339-1341

TEXT: Two methods of determining iron microquantities in metallic indium and gallium are described in this paper. In the analysis of indium, iron trichloride is extracted from the 7 N hydrochloric solution of the weighed sample by diisopropyl ether. After evaporation of ether, iron is colorimetrically determined. The rhodanide method cannot be applied in this case since indium chloride is partly extracted together with diisopropyl ether and would thus disturb the colorimetric determination of iron in the form of rhodanide. The colorimetric iron determination is, therefore, conducted on the basis of a red, complex cation which, together with orthophenanthroline, forms bivalent iron. The residue obtained by ether evaporation is dissolved in 1 N hydrochloric acid, and mixed with a biphthalate buffer solution (pH 3), a 10% solution of hydroxylamine hydrochloride, a 0.5% aqueous solution of orthophenanthroline, and a 2.5 M
Card 1/3

S/032/61/027/011/001/016
Determination of iron microquantities ... B106/B110

solution of sodium or lithium perchlorate. Perchlorate of the iron orthophenanthroline complex forms and is extracted with nitrobenzene. The pink coloring of the extract is compared with that of a number of standard solutions produced simultaneously and in the same manner. The above method cannot be used for determining iron in metallic gallium since, under the conditions, gallium chloride is also extracted considerably. In the analysis of metallic gallium, iron is extracted from the 5 N hydrochloric solution of the weighed sample with an isonitroso-phenyl-hydroxylamine solution in chloroform. Iron is not extracted from 7 N or higher hydrochloric solutions. The extract containing iron as cupferronate is evaporated to dryness; the cupferronate is then decomposed by concentrated sulfuric acid and perhydrol. The residue is again treated with perhydrol, evaporated to dryness, dissolved in 1 N hydrochloric acid, and mixed with a 25% solution of potassium rhodanide. After mixing, extraction with isoamyl alcohol is conducted. The coloring of the extract is compared with that of a series of standard solutions obtained simultaneously and in the same manner. Sensitivity and accuracy of the two above methods proved to be satisfactory. The methods allow a determination of $2\cdot10^{-5}$% iron in 0.5 g of indium or

Card 2/3

S/032/61/027/011/001/016
Determination of iron microquantities ... B106/B110

gallium. Requirement for this sensitivity of determination: purity of all reagents which, in a blank test, must not contain more than a total of 0.1 γ of iron. There are 1 table and 1 non-Soviet reference. The reference to the English-language publication reads as follows: D. W. Margerum, C. V. Banks, Anal. Chem., 26, 200 (1954).

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute of General and Inorganic Chemistry of the Academy of Sciences UkrSSR)

Card 3/3

S/078/62/007/012/010/022
B144/B180

AUTHORS: Nazarenko, V. A., Lebedeva, N. V., Biryuk, Ye. A., Shustova, M. B.

TITLE: Complex compounds of multivalence metals with trioxyfluorones

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 12, 1962, 2731-2738

TEXT: The complex formation between GeO_2, $ZrOCl_2$ or $SbCl_3$ and phenyl fluorone and between $Sc_2(SO_4)_3$ and propyl fluorone was studied spectroscopically in acid media after stabilization with gelatine to ascertain whether the metal ion substitutes two H atoms in the diphenol or one H atom in the o-hydroxyquinone. A new scheme, based on the solubility product, is given for the evaluation of the spectrophotometric data; this was necessary because of the low solubility of the complexes. The complex formation with Zr was studied in 0.2 - 0.8 N HCl and showed that only a 1:2 complex forms (optimum 0.2 - 0.3 N HCl). This was confirmed by both the isomolar series and the molar ratios. The Zr complex is thus consistent with other Me^{IV} trihydroxy fluorone complexes. A study of the change in optical density as a function of the pH showed that only one H
Card 1/2

Complex compounds of multivalence ... S/078/62/007/012/010/022
B144/B180

atom is substituted, namely, at C_7 of the phenol group, and that a donor-acceptor bond is established with the quinone oxygen at C_6 with formation of a 5-membered ring. There are 7 figures and 4 tables.

SUBMITTED: February 26, 1962

Card 2/2

S/073/62/028/002/006/006
B101/B110

AUTHORS: Nazarenko, V. A., Flyantikova, G. V., Lebedeva, N. V.

TITLE: Ionic state of germanium in weakly acid solutions

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 28, no. 2, 1962, 266-267

TEXT: The range of existence of germanium cations in weakly acid solutions was studied. Experiments were conducted with electromigration and by determining the germanium content in the electrolyte with disulfo phenyl fluorone. 0.001 moles of GeO_2 solutions in a buffer solution (glycocol, biphthalate, veronal which do not form complexes with Ge) were filled into a V-shaped tube with sealed-in platinum electrodes. The upper tube shaft was filled with the same electrolyte but without Ge. Voltage was varied between 30 and 210 v at a constant amperage of 15 ma. Electrolysis took 60 min. Then, the Ge content both in the catholyte and in the anolyte was determined. In order to take diffusion into account, blank tests without current were conducted. Results:

Card 1/2

Ge (μg/ml)

pH	in catholyte	in anolyte	blank test
>7	-	only in anolyte	
6.83	4.9	6.1	0.9
5.05	4.6	5.0	0.7
3.12	7.7	7.5	1.0
2.32	4.4	3.8	1.1
1.00	1.3	2.2	0.2

Contrary to published data, weakly acid solutions contained germanium cations in addition to the anions of germanic acids. Their presence explains many analytical reactions of Ge and also their similarity to reactions of other metals of Group IV of the Periodic System. There are 1 figure and 1 table. The most important English-language reference is: D. A. Everest, J. E. Salmon, J. Chem. Soc., 2438 (1954).

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, laboratoriya v Odesse (Institute of General and Inorganic Chemistry AS UkrSSR, Laboratory in Odessa)

SUBMITTED: September 10, 1960

NAZARENKO, V.A.; LEBEDEVA, N.V.

Determination of tin in poor ores by p-nitrophenylfluorone.
Zav.lab. 28 no.3:263-271 '62. (MIRA 15:4)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Tin--Analysis) (Xanthenone)

S/032/62/028/004/002/026
B101/B144

AUTHORS: Nazarenko, V. A., and Biryuk, Ye. A.

TITLE: Determination of scandium by propyl fluoron

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 4, 1962, 401-406

TEXT: A photometric method is described for determining amounts of up to 0.0002% Sc in silicates, tungstites, zirconates, coal ashes, and cassiterite slags. Silicates and ashes are decomposed in HF + H_2SO_4 (1:1); tungstites, by melting with NaOH; cassiterites, by melting with Na_2O_2, and zircons with KF_2. If Th and Zr are present in large amounts, they are precipitated as iodates. Alkaline melts are dissolved in 8 N HCl. Sc is separated from accompanying elements by precipitation with KOH in the presence of H_2O_2, Fe is used as collector, and then extracted by ether in hydrochloric acid solution. Subsequently, Sc is precipitated as tartrate in the presence of Y_2O_3. The precipitate is dissolved in HCl; ammonium

Card 1/2

S/032/62/028/004/002/026
Determination of scandium... B101/B144

thiocyanate is added; Sc is extracted with ether, re-extracted with H_2O, evaporated; the residue is calcined, treated with aqua regia, and dissolved in hydrochloric acid. Small amounts of disturbing elements still present are masked: Th, Zr, Al by acetyl acetone, Fe by orthophenanthroline and ascorbic acid. After adding an alcoholic solution of propyl fluoron Sc is determined by an СФ-4 (SF-4) spectrophotometer or an ФМС-56 (FMS-56) photometer at 530 mμ, or by an ФЭК-М (FEK-M) photocolorimeter and green light filter on the basis of a calibration curve. A radiometric control with Sc^{46} proved the dependability of the method. Microamounts of Sc are quantitatively precipitated as tartrate from a small solution volume (1-5 ml), also without addition of Y_2O_3. There are 2 figures, 4 tables, and 9 references: 4 Soviet and 5 non-Soviet. The reference to the English-language publication reads as follows: D. F. Peppard, G. W. Mason, J. L. Maier, J. Inorg. and Nucl. Chem., 3, 215, (1956).

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute of General and Inorganic Chemistry of the Academy of Sciences UkrSSR)

Card 2/2

NAZARENKO, V.A.; SHUSTOVA, M.B.; RAVITSKAYA, R.V.; NIKONOVA, M.P.

Determination of calcium, aluminum, and chromium impurities in antimony. Zav.lab. 28 no.5:537-539 '62. (MIRA 15:6)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Antimony--Analysis) (Metals--Analysis)

S/032/62/028/006/002/025
B110/B101

AUTHORS: Nazarenko, V. A., Shustova, M. B., Shitareva, G. G., Yagnyatinskaya, G. Ya., and Ravitskaya, R. V.

TITLE: Determination of impurities in titanium

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 6, 1962, 645 - 648

TEXT: The determination of the contents of Ta, Al, P, Si, Mg, Cr, Mn, Fe, and Ni in Ti with an accuracy of 0.0001% is described. (1) Tantalum is photometrically determined with dimethyl fluorone (50 mg in 100 ml 96% C_2H_5OH and 0.5 ml 6 N HCl) after extraction as a fluoride complex with an acetone-isobutanol mixture. (2) Manganese is determined colorimetrically (HNO_3, H_3PO_4, and potassium periodate) as manganic acid after extraction in the form of diethyl dithiocarbaminate. (3) Iron is determined colorimetrically as thiocyanate after extraction of the oxinate (5 ml 1% oxine solution in 1 N CH_3COOH) using chloroform in the presence of H_2O_2 at pH > 8 (4) Nickel is colorimetrically determined with dimethyl glyoxime after the

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S/032/62/028/006/002/025
B110/B101

Determination of impurities ...

extraction of the dimethyl glyoximate with $CHCl_3$. After the extraction of titanium cupferronate with $CHCl_3$ the contents of Al, Cr, Mg, and P in the aqueous phase are determined. (1) Aluminum is fluorometrically determined with eriochrome black. (2) Chromium is determined colorimetrically with an acetone solution of diphenyl carbazide. (3) Magnesium is determined by using a solution of eriochrome black B in 10% NH_3. (4) Phosphorus is determined as phosphorus molybdenum blue extracted with isoamyl alcohol. Impurities forming no volatile compounds (e. g., Si) are determined after the removal of Ti in the form of $TiCl_4$. There is 1 table.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute of General and Inorganic Chemistry of the Academy of Sciences UkrSSR)

Card 2/2

S/032/62/028/006/003/025
B110/B101

AUTHORS: Nazarenko, V. A., and Poluektova, Ye. N.

TITLE: Determination of zirconium impurities in niobium and niobium pentoxide

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 6, 1962, 656 - 658

TEXT: Photometric determination of 0.001% Zr in Nb is carried out by separating the zirconium from the niobium through precipitation with alkali (KOH) in the presence of H_2O_2. The niobium remains dissolved in the form of perniobate. Iron hydroxide is used as a collector. The present determination was made with phenyl fluorone in an 0.2 - 0.3 N HCl solution containing 30% C_2H_5OH which prevented the precipitation of zirconium phenyl fluoronate. The solution was stabilized with gelatin. At a wavelength of 535 mμ, the optical density D is a linear function of the amount of zirconium between 0 and 50 μg. As trivalent iron interferes with the determination, it was reduced to bivalent iron by using thioglycolic acid. There is 1 table.

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S/032/62/028/006/013/025
B110/B101

Determination of zirconium ...

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute of General and Inorganic Chemistry of the Academy of Sciences UkrSSR)

Card 2/2

NAZARENKO, V. A.; VINKOVETSKAYA, S. Ya.; RAVITSKAYA, R. V.

Fluorimetric determination of trace amounts of gallium in semiconductor silicon and high purity zinc. Ukr. khim. zhur. 28 no.6:726-728 '62. (MIRA 15:10)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, laboratorii v Odesse.

(Gallium—Analysis) (Silicon—Analysis)
(Zinc—Analysis)

NAZARENKO, V. A.; KORENMAN, I. M.

Basic problems of development of analytical chemistry. Zav. lab. 28 no.12:1411-1413 '62. (MIRA 16:1)

(Chemistry, Analytical)

NAZARENKO, V.A.; LEBEDEVA, N.V.; SHUSTOVA, M.B.; BIRYUK, Ye.A.

Trihydroxyfluorones. Metod.poluch.khim.reak. i prepar. no. 7: 21-24 '63. (MIRA 17:4)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, Odessa.

NAZARENKO, V.A.

Use of extraction for determining small amounts of elements.
Trudy Kom.anal.khim. 14:3-10 '63. (MIRA 16:11)

L 18496-63 EPF(n)-2/EWP(q)/EWT(m)/BDS AFFTC/SSD Pu-4 JAJ/RM/WW/JD/MAY/JG

ACCESSION NR: AP3007374 S/0186/63/005/004/0497/0499

AUTHOR: Nazarenko, V. A.; Biryuk, Ye. A.; Poluektova, Ye. N.

70

TITLE: Separation of small amounts of thorium from rare earth elements, iron, and aluminum on an ion-exchange resin containing a sorbed reagent

SOURCE: Radiokhimiya, v. 5, no. 4, 1963, 497-499

TOPIC TAGS: ion exchange, ion exchange resin, ion exchanger, thorium, rare earth metals, iron, aluminum, anion exchange, anion-exchanging substances, anion exchanger, anion exchange resin, AV-17, AV-17 anion exchanger, AV-17 anion exchange resin, toron, benzenearsonic acid. o-(2-hydroxy-3,6-disulfo-1-naphthylazo)-, 2-naphthol-3,6-disulfonic acid. 1-(o-arsonophenylazo)-, cation exchange, cation exchanger, reverse anion exchanger, thorium determination, thorium separation, thorium isolation, yttrium, europium, promethium, yttrium oxide, La_2O_3, aluminum chloride

ABSTRACT: A study has been made of the separation of Th from rare-earth elements, Fe, and Al by the selective adsorption of Th ions

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L 18496-63
ACCESSION NR: AP3007374

O

on AV-17 anion exchanger [made from styrene, divinylbenzene, and trimethylamine (see: Zh. f. kh., v. 36, no. 11, Nov 1962, 2465-2468)] treated with "toron" (1-(o-arsonophenylazo)-2-naphthol-3,6-disulfonic acid) to form a "reverse anion exchanger" which acts as a cation exchanger toward Th only. A "reverse anion exchanger" is defined as one treated with an organic compound containing both a group reacting selectively with the ion to be separated, and an acid group (preferably a sulfo group) for attachment to the originnal anion exchanger. Separation of Th was carried out in a glass column 20—25 cm long and 0.8 cm in diameter. Three grams of AV-17 anion exchanger (pretreated with water and an alkali) was placed in the glass column, treated with a 0.5% toron solution, and washed with water. The Th-containing influent (20—30 ml), acidified with 0.2 g ascorbic acid (to an acidity equivalent to 0.05 N HCl), was passed through the column at a rate of 0.5 ml/min. The adsorbed Th was then eluted with 1 N HCl. The amount of Th so separated was determined by the spectrophotometric method (V. I. Kuznetsov, ZhOKh, 13, 914 (1944); S. B. Savvin, DAN SSSR, 127, 6, 1231 (1959)). After elution the anion exchanger may be used again without additional treatment with toron. Microquantities of Th (down to 1 x 10^{-4}%)

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L 18496-63
ACCESSION NR: AP3007374

may be separated and determined in the presence of rare earths, Al, and Fe by this method. The behavior of Y, Eu, Pm, and Fe on the AV-17 "reverse anion exchanger" under the conditions described was also studied, using Y^{91}, Eu^{152}, Eu^{154}, Pm^{147}, Fe^{55}, and Fe^{59}. Tabulated data on the radioactivity of the solutions before and after they were passed through the column show that these elements are not adsorbed by the anion exchanger. The method described was used to determine Th in Y_2O_3, La_2O_3, total rare-earth chlorides, and $AlCl_3$. Orig. art. has: 1 formula and 3 tables.

ASSOCIATION: none

SUBMITTED: 08Sep62 DATE ACQ: 07Oct63 ENCL: 00

SUB CODE: CH NO REF SOV: 003 OTHER: 000

Card 3/3

NAZARENKO, V.A.; FLYANTIKOVA, G.V.

Composition and ionization constants of complex polyol germanic acids. Zhur. neorg. khim. 8 no.6:1370-1377 Je '63. (MIRA 16:6)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, laboratorii v Odesse.
(Germanic acid) (Ionization)

NAZARENKO, V.A.; FLYANTIKOVA, G.V.

Instability constants of dipolyologermanium complexes. Zhur. neorg. khim. 8 no.10:2271-2275 O '63. (MIRA 16:10)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.
(Germanium compounds) (Alcohols)

ANDRIANOV, A.M.; NAZARENKO, V.A.

Ionization constants of tripyrocatechol-germanic and tripyrogallol-germanic acids. Zhur. neorg. khim. 8 no.10:2276-2280 O '63. (MIRA 16:10)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.
(Germanic acid) (Complex compounds) (Ionization)

ANDRIANOV, A.M.; NAZARENKO, V.A.

Instability constants of tripyrocatechol-germanic and tripyrogallol-germanic compounds. Zhur. neorg. khim. 8 no.10: 2281-2284 O '63. (MIRA 16:10)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.
(Germanium compounds) (Pyrocatechol) (Pyrogallol)

L 17467-63 EWP(q)/EWT(m)/BDS JD/JG

ACCESSION NR: AP3004944 S/0075/63/018/008/0964/0971

57

53

AUTHORS: Shustova, M. B.; Nazarenko, V. A.

TITLE: Trihydroxyfluorones as reagents for photometric determination of molybdenum

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 8, 1963, 964-971

TOPIC TAGS: trihydroxyfluorone , photometric determination, molybdenum

ABSTRACT: In order to select the best trihydroxyfluorone as a reagent for photometric determination of molybdenum, approximately 20 compounds of this group were studied. Indications were that all the trihydroxyfluorones can be used as reagents for this purpose. o-Nitrophenylfluorone is the best. The complexing between molybdenum and trihydroxyfluorones was studied. At pH equal to or greater than 1 complexes are formed with ratio Mo : A = 1 : 1; at higher acidity the ratio is 1 : 2. It was established that, during formation of propylfluorone complex 1 : 1, a molybdenum ion replaces one hydrogen atom in the reagent molecule. Orig. art. has: 3 tables, 5 figures.

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L 17467-63
ACCESSION NR: AP3004944

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR Laboratorii v Odesse (Institute of general and inorganic chemistry, Academy of sciences, USSR, Odessa laboratory)

SUBMITTED: 22Oct62	DATE ACQ: 06Sep63	ENCL: 00
SUB CODE: CH	NO REF SOV: 005	OTHER: 006

Card 2/2

NAZARENKO, V.A.; VINAROVA, L.I.

Pyrocatechol violet as a reagent for germanium. Zhur.anal.khim. 18 no.10:1217-1221 O '63. (MIRA 16:12)

1. Institute of General and Inorganic Chemistry, Academy of Sciences Ukrainian S.S.R., Laboratories in Odessa.

S/073/63/029/002/003/006
A057/A126

AUTHORS: Nazarenko, V. A., Biryuk, Ye. A.

TITLE: Arsenazo I as reagent for the photometric determination of scandium

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 29, no. 2, 1963, 198 - 204

TEXT: The reagent arsenazo I was first described by V. I. Kuznetsov (DAN, v. 31, 1941, 895) for the determination of uranium and rare earths. The present authors investigated this reagent for photometric determination of scandium in some natural and technical materials. The optimum pH was found to be 7.9 and was maintained by a borate buffer in further studies. The maximum light absorption of the arsenazo solution at pH 7.9 lies at 500 mμ and of the complex with scandium at 542 mμ. Thus the optimum optical density for scandium determination is at 570 mμ. The maximum colour intensity was observed at 3 - 3.5 fold excess of the reagent in relation to the scandium content in the solution (in mole/l). The colour develops in 5 min remaining unchanged for several hours. The molar absorption coefficient of the scandium complex was determined by the saturation method at 570 mμ with $1.73 \cdot 10^4$. Under optimum conditions the solutions of the scandium

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S/073/63/029/002/003/006
A057/A126

Arsenazo I as reagent for...

complex follow Beer's law in a wide range of concentration. Determination of the effect of the concentration of hydrogen ions on the formation of the complex showed a mean value $\log K_0 = 5.41$. Scandium forms with arsenazo a 1:1 complex. The authors assume that arsenazo reacts with scandium in the quinonehydrazonic form. The scandyl ion substitutes the hydrogen of the arsone group, while the hydrazo group has a coordination bond with the quinone oxygen and nitrogen. A method for the determination of scandium at a content up from 0.001% in various materials (coal ash, granite, amphibolite, cassiterite slags, wolframite) was developed. The interfering elements are removed by the procedure described by the authors for scandium determination with propylfluorone (Zav.lab., v. 28, 1962, 401). The aqueous extract after the sêparation of scandium by rhodanide-ether extraction, is evaporated, the dry residue calcinated at maximum 700°C, digested with 2 ml aqua regia and evaporated, then digested with 2 ml 8 N HCl and filled up to 50 ml with 23 ml 0.1 N HCl, 0.5 ml 5%-solution of ascorbic acid, 1 ml 0.25% ortho-phenanthroline, and 0.05 M borax solution. After mixing for 20 min the density is measured at 570 mμ also of a solution prepared in the same way, but without scandium. The scandium content is determined from a calibration curve. There are 4 figures and 2 tables.

Card 2/3

S/073/63/029/002/003/006
A057/A126

Arsenazo I as reagent for...

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR Laboratorii v Odesse (Institute of General and Inorganic Chemistry of the AS UkrSSR, Odessa Laboratories)

SUBMITTED: September 20, 1961

Card 3/3

NAZARENKO, V.A.; ANDRIANOV, A.M.

Determination of germanium as a complex pyrocatechol germanate. (MIRA 16:8)
Zav.lab. 29 no.7:795-797 '63.

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.
(Germanium--Analysis) (Pyrocatechol)

[illegible]

[illegible]

AUTHOR: Nazarenko, V.A., Shustova, M.B.

[illegible] Photometric determination [illegible] of molybdenum in high-melting [illegible]

[illegible] and [illegible]

1964, 150-153

TOPIC TAGS: molybdenum diethyldithiocarbamate radiometry, quantitative analysis, colorimetric analysis, refractory metal, nitrophenylfluorone

[illegible] the separation of [illegible] of molybdenum from difficulty fusible [illegible]

203-55

ACCESSION NR: AT4048100

[illegible] to the tetravalent form. For the determination of molybdenum its reaction [illegible]

[illegible] institut obshch[illegible] [illegible] organ [illegible]

[illegible] NM [illegible]

NO REF SOV: 003 OTHER: 002

Card 2/2

ACCESSION NR: AP4009727 S/0075/64/019/001/0087/0089

AUTHOR: Nazarenko, V. A.; Lebedeva, N. V.; Vinarova, L. I.

TITLE: Complexometric determination of tetravalent germanium

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 1, 1964, 87-89

TOPIC TAGS: complexometric determination, germanium determination, quantitative germanium determination, complexone III, GeO sub 2, germanium (IV), germanium complex formation

ABSTRACT: Complexometric determination of tetravalent germanium in GeO_2 was accomplished by use of a heated solution of the disodium salt of ethylenediaminetetracetic acid and a 2.5 fold excess of complexone III. Changing of the anion into the cation form was found to proceed slowly, and complex formation occurred quantitatively at a 0.02-0.05 N HCl acidity. As one mole of GeO_2 binds 1 mole of complexone, the Ge gram - equivalent is 72.6. The excess of complexone was titrated off with zinc sulfate and a color indicator. Standard deviation errors were ± 1.2% for 15-200 mg Ge and ± 4.6% for 0.2-3 mg Ge

Cord 1/2

ACCESSION NR: AP4009727

per 50 ml solution. The influence of chlorides on the complexometric titration was also studied and reported. Complex formation proceeded normally at a 3 mole/liter NaCl content. Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, Laboratorii v Odesse (Institute of General and Inorganic Chemistry of the AN USSR, Odessa Laboratory)

SUBMITTED: 27Aug63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: CH NO REF SOV: 003 OTHER: 006

Card 2/2

Poluektova, Ye. N.; Nazarenko, [illegible]

[illegible]hydroxyfluorones as reagents for the photometric determination of [illegible]

Zhurnal analiticheskoy [illegible]

[illegible] trihydroxyfluorone

[illegible] molar ratio method, isomolar series method, complex formation, [illegible]

[illegible] were [illegible]

Card 1/3

[illegible] AP[illegible] [illegible]1463

TITLE: Reaction of germanium with purpurogallin

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 12, 1964, 1459-1463

TOPIC TAGS: purpurogallin, germanium, germanium complex, spectrophotometry, germanium reaction

ABSTRACT: The purpose of this investigation was to study in greater detail the [illegible] of germanium with purpurogallin(trihydroxybenzo-6,7-tropolone) (I) [illegible] determination of germanium. [illegible]

By isomolar series it was established [illegible] with two liquids. Purpurogallin can [illegible] droxycarbonyl compound, forming a complex [illegible]

[illegible]-65

ACCESSION NR: AP5001462

[illegible] for spectrophotometric determination of germanium. The molar extinct- [illegible] was observed [illegible] in 1N HCl at [illegible] and 5 figures [illegible] 4 μg/ml of [illegible]

[illegible] Institut [illegible] Akademii nauk SSSR [illegible] laboratory [illegible] Odessa [illegible] the Institute of General and [illegible]

SUB CODE: GC

ACC NR AP50[illegible]

Fig. 1

[illegible]rption spectra of [illegible] (in [illegible])

L 01454-66 EWT(m)/EWP(j)/T/EWP(t)/EWP(b) IJP(c) JD/RM

ACCESSION NR: AP5021781 UR/0074/65/034/008/1313/1331
546.286

44 44,55

36
35
B

AUTHOR: Nazarenko, V. A.; Andrianov, A. M.

TITLE: Complex compounds of germanium and its state in solutions 27,44,55

SOURCE: Uspekhi khimii, v. 34, no. 8, 1965, 1313-1331

TOPIC TAGS: germanium, germanium compound, germanium organic compound

ABSTRACT: The present status of the chemistry of complex germanium compounds is reviewed, and the state of germanium in solution, which is closely related to complex forming, is also discussed. The review deals with the following subjects: (1) state of germanium in aqueous solutions; (2) state of germanium in inorganic acid solutions; (3) germanium heteropoly acids; (4) addition products of germanium tetrahalides; (5) complex compounds of germanium with polyhydric alcohols; (6) complex compounds of germanium with carboxylic acids; (7) complex compounds of germanium with diphenols; (8) complex compounds of germanium with hydroxycarboxylic acids, including (A) compounds already containing an ortho or perihydroxycarboxyl group and (B) compounds of o-diphenol structure capable of tautomeric conversion into

Card 1/2

L 01454-66

ACCESSION NR: AP5021781

3

o-hydroxyquinones; (9) nitrogen- and sulfur-containing germanium complexes; (10) complex-forming germanium ions.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN UkrSSR, Laboratorii v Odesse (Institute of General and Inorganic Chemistry, AN UkrSSR, Odessa Laboratories)

44,55

SUBMITTED: 00 ENCL: 00 SUB CODE: GC

NO REF SOV: 085 OTHER: 174

Card 2/2

L 38116-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6015723 (N) SOURCE CODE: UR/0032/66/032/005/0510/0512

AUTHOR: Yagnyatinskaya, G. Ya.; Nazarenko, V. A.

ORG: Institute of General and Inorganic Chemistry AN UkrSSR (Institut obshchey i neorganicheskoy khimii AN UkrSSR)

TITLE: Photometric determination of microamounts of niobium 21 in titanium 21 and titanium tetrachloride, 21

SOURCE: Zavodskaya laboratoriya, v. 32, no. 5, 1966, 510-512

TOPIC TAGS: photometric analysis, niobium, titanium, titanium compound

ABSTRACT: The proposed method for determination of niobium in metallic titanium and titanium tetrachloride is based on separation by extraction with a solution of tribenzylamine in $CHCl_3$ from 11 M HCl and final determination photometrically using orthonitrophenylfluorone. The method makes it possible to determine down to 0.02 micrograms of niobium in 1 ml. The determination of niobium is not interfered with by the following other impurities (in micrograms/ml); Ta--0.4; Ti--4; Zr--8; Sn--2; Mo--2; W--1; Ga--4; Sb > 40; Fe > 300. With the use of extraction with an 8% solution of tribenzylamine in chloroform, a check using the radioactive isotope Nb^{95} showed that in a single extraction from 11 M

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hydrochloric acid, at a ratio of 100:25 between the aqueous and organic phases, 87% of the niobium went over into the organic phase. 0.1 M hydrochloric acid was a better extracting reagent. In a single extraction, with a phase ratio of 50:50, 94% of the niobium was extracted. Titanium was not extracted and its presence in the solution in the amount of more than 0.5 grams did not interfere with the extraction of niobium. Orig. art. has: 1 table.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001

Card 2/2

ACC NR: AP6010053 SOURCE CODE: UR/0032/66/032/003/0267/0269

AUTHOR: Nazarenko, V. A.; Biryuk, Ye. A.; Shustova, M. B.; Shitarova, G. G.; 56
Vinkovetskaya, S. Ya.; Flyantikova, G. V. B

ORG: Institute of General and Inorganic Chemistry, AN UkrSSR (Institut obshchey i neorganicheskoy khimii AN UkrSSR)

TITLE: Determination of impurities in tantalum 21

SOURCE: Zavodskaya laboratoriya, v. 32, no. 3, 1966, 267-269

TOPIC TAGS: tantalum, impurity level, photometric analysis, iron, copper, tin, lead

ABSTRACT: The photometric determination of impurities in tantalum is described. It has a sensitivity of $10^{-4}\%$ and requires all the precautionary measures used during the analysis of high-purity metals, including the running of blank experiments under conditions of sample analysis. The photometric determination is preceded by extraction of the analyzed element (Pb, Cu, Fe, Ni, or Sn) from the tantalum sample, by extraction during the determination of tantalum in Zr, Bi, and Zn in the form of a fluortantalate complex, and by determination of chromium after separation of the tantalum by hydolysis. Lead and cadmium are determined by dithizone after extraction of the lead and cadmium (in the form of diethyldithiocarbaminates) from acid medium with chloroform. The interfering effect of other elements is eliminated by washing the extract with alkaline

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ACC NR: AP6010053

solution (pH 12) containing cyanide, tartrate, and diethyldithiocarbaminate. The rhodanide method, with extraction of the dyed complex, is used for the determination of iron. Copper is determined by dithizone. The separation of iron and copper from tantalum is made by extraction of their diethyldithiocarbaminate salts. Tin is determined photometrically with paranitrophenylfluorone after extraction of the tin from the sulfate medium with chloroform in the form of diethyldithiocarbaminate. This is made similarly to the determination of tin in niobium (N. B. Lebedeva, V. A. Nazarenko, Trudy Komissii po anaticheskoy khimii, Izd. AN SSSR, XI, 287, 1960). It is convenient to determine some impurities after separating the tantalum from them. This can be done by the extraction of the fluorotantalum complex with ketones (e.g., cyclohexanone) from its solution in HF and H_2NO_3 or H_2SO_4, while Zr, Ti, Bi, and Zn can be determined in the aqueous phase: Zr with phenylfluorone, Bi by the iodide-ketone method, and Zn with dithizone. Chromium is determined with diphenylcarbazide after separation of tantalum by hydrolysis.

SUB CODE: 11,07/ SUBM DATE: none/ ORIG REF: 008

Card 2/2 hs

ZARENKO, V A

USSR/Farm Animals - Swine. Q-4

Abs Jour : Ref Zhur - Biol., No 18, 1958, 83429

Author : Borts, L.L., Bryushinin, I.G., Kovalenko, N.A., Nazarenko, V.A., Pochernyayeva, O.N., Spirin, K.F.

Inst :

Title : Corn Waste as Valuable Swine Fodder.

Orig Pub : Svinovodstvo, No 12, 38-44

Abstract : When corn waste (CW) was fed to adult pregnant and nursing sows in proportions reaching 23-25 and 41.45 percent of fodder rations, negative effects in terms of the sows' fertility and milk productivity, or in terms of piglet development were not observed. It was determined that CW may be fed to suckling piglets as additional fodder, and to weaned piglets as basic fodder in feed mixtures. When raising pure-bred sows to mating age, it is possible to repalce grain feeds by CW, limiting it to 60 percent of the feeds' nutritional values. As swine which were

Card 1/2

SOLOKHA, A.P.; NAZARENKO, V.A.

Automatic pumping plants in mining. Ugol' Ukr. Vol.3 no.5:22-23 My '59. (MIRA 12:9)

1. Konotopskiy zavod "Krasnyy metallist".
(Mine pumps)

NAZARENKO, V.A., inzh.

Constructing precast sewers and petroleum separators at the Omsk Petroleum Refinery. Mont.i spets.rab.v stroi. 22 no.3:5-7 Mr '60. (MIRA 13:6)

1. Trest TSentrospetsstroy.
(Omsk--Petroleum refineries--Equipment and supplies)
(Sewers, Concrete)

LAVRINENKO, V.I., inzh.; NAZARENKO, V.A., inzh.

Digital servosystem for a movable reversing conveyor. Mekh. i avtom. proizv. 17 no.10:30 0 63. (MIRA 17:1)

NAZARENKO, V.A., inzh.-leytenant

Phantastron and its operation. Vest.protivovozd.obor. no.1:24-26
Ja '61. (MIRA 14:2)
(Pulse circuits) (Oscillators, Electron-tube)

NAZARENKO, V.A., starshiy inzhener-leytenant

Method for testing the basic parameters of an intermediate-frequency amplifier. Vest. protivovozd. obor. no.8:16-18 Ag '61. (MIRA 14:8)

(Amplifiers (Electronics))

L 15758-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACC NR: AP5027457 SOURCE CODE: UR/0032/65/031/011/1301/1303

AUTHOR: Nazarenko, V. A.; Ravitskaya, R. V.

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ORG: Institute of General and Inorganic Chemistry, AN UkrSSR (Institut obshchey i neorganicheskoy khimii AN UkrSSR)

41

TITLE: Photometric determination of indium in ores and metals by using trioxyfluorones

SOURCE: Zavodskaya laboratoriya, v. 31, no. 11, 1965, 1301-1303

TOPIC TAGS: indium, fluorine compound, photometry, microchemistry

ABSTRACT: It has previously been shown (Ukrainski khimicheskiy zhurnal, 1964, Vol. 30, p. 625) that the trioxyfluorones, having in their molecule the oxyphenyl, oxynitrophenyl, or sulfophenyl radical R, were the most suitable for the determination of In because they did not require the addition of ethanol to the reaction medium. The salicyl- and disulfophenylfluorones, synthesized according to the

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UDC: 546.682 : 543

description given by V. A. Nazarenko et al. (Sb. "Metody polucheniya khimicheskikh reaktivov i preparatov", IREA, 7, str. 21, 1963), were used in the present experiments for the determination of In in silicate, sulfide, and oxide ores, and in metallic Pb and Zn with a sensitivity of In 0.02 γ/ml. Separation of interfering elements was made by the precepitation of In hydroxide with NH_3 in the presence of H_2O_2 and the subsequent extraction of InI by ether. Dissolve 1 g sample by any appropriate solvent (silicates by HF - H_2SO_4, sulfides by HNO_3 or HNO_3 - HCl, etc.), add 3 ml of 30% H_2O_2 and 40 mg of Fe (in the form of sulfate). If the sample contains little or no Fe, drop in 25% NH_3 soln. until a precipitate is forming, add 2 ml of NH_3 in excess, settle, and filter out sediment, wash with 1% NH_4Cl solution, dilute to 200 ml with water, add 3 ml of H_2O_2, repeat the precipitation with NH_3, dissolve the washed residue in 2 NH_2SO_4, add 8 gr of KI, and discolor the solution by dropping in a 5% solution of Na Thiosulfate with 2 to 3 drops added in excess. Extract twice (using 30 ml batches of a pure diethyl ester) the discolored solution in a separating funnel, add (before the second extraction) 2 to 3 drops of thiosulfate solution. Wash the combined ester extracts 4 times with a special liquid (8 gr. of KI dissolved in 50 ml. of $1NH_2SO_4$ with a few drops of 5% soln. of Na thiosulfate). Reextract the In from the washed extracts, stirring 3 times for 2 minutes, with 15 ml of water. Put the reextracts into a 50-ml measuring flask and bring the volume to the mark. Depending on the

L 15750-66

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expected content of In (1-40 γ of In), transfer 1 to 50 ml of the solution obtained into a 50 ml measuring flask, add solutions of 1% NH_4F 0.5, 2% ascorbic acid 0.5, 0.25% O-phenathroline 1, 1% gelatin 0.05% 2 ml of salicyl.- or disulphophenylfluorone (dissolve 50 ml of reagent in 99 ml of 90% ethyl alcohol and IN of 1 ml HCl) and 19-20 ml of acetate (pH 4.6) buffer solution. After 45 minutes, measure the optical density in a vessel with a layer thickness of 20 or 50 mm at 535 or 530 $m\mu$ for salicylfluorone or disulfophenylfluorone, respectively. Measuring is done for the same solution but without In. A green light filter is used with the photocolorimeter FEK-M. The amount of In is determined from the calibration curve plotted for 0-40 In. Orig. art. has: 1 table.

SUB CODE: 07,20/ SUBM DATE: 00/ NR REF SOV: 007/ OTHER: 006.

3/3 Sm

LOBASHOV, V.M.; NAZARENKO, V.A.; KHARKEVICH, G.I.

The $\beta\gamma$-polarization correlation in the β-decay of Pr^{144} and Eu^{152m}. IAd. fiz. 2 no.5:777-782 N '65. (MIRA 18:12)

1. Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR.

FEDOROVSKIY, A.A., zasluzhennyy deyatel' nauki prof. (Kiyev); NAZARENKO, V.D. (Kiyev)

Ivan Ivanovich Grekov. Nov. khir. arkh. no.2:124-127 Mr-Ap '60. (MIRA 14:11)

(GREKOV, IVAN IVANOVICH, 1867-1934)

NAZARENKO, V.D., tekhnik.

Trackwalker Sereda. Put' i put. khoz. no.6:45 Je '58. (MIRA 11:6)

1. Stantsiya Izyum Donetskoy dorogi.
(Sereda, Anton Mikhailovich)
(Izyum—Railroads—Maintenance and repair)

GOLUB, Ye.I.; DVORKIN, G.A.; NAZARENKO, V.G.

Evaluation of the rigidity of DNA molecules in a solution. Biokhimiia 28 no.6:1041-1046 N-D'63 (MIRA 17:1)

1. Institute of Biophysics, Academy of Sciences of the U.S.S.R. Moscow.

GOLUB, Ye.I.; NAZARENKO, V.G.

Double refraction in the solutions of high polymer nucleic acids in an electric field. Biofizika 9 no.6:657-665 '64. (MIRA 18:[illegible]

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

GORDEYEV, G.S., prof.; YAKUSHKIN, D.I.. Prinimali uchastiye: GORSKAYA, N.V.; GRANOVSKAYA, A.Ye.; YEVSTIGNEYEVA, Yu.G.; KRYLOV, M.V.; LEYKIN, D.I.; MAKHOVETSKIY, V.B.; MEYENDORF, A.L.; NAZARENKO, V.I.; NICHIPORUK, O.K.; PAVLOV, L.I.; RUMYANTSEVA, N.V.; SOSENSKIY, I.I.; CHERNEVSKIY, Yu.V.. TULUPNIKOV, A.I., red.; SOLOV'YEV, A.V., prof., red.; RAKITINA, Ye.D., red.; ZUBRILINA, Z.P., tekhn.red.

[Agriculture in capitalist countries; a statistical manual] Sol'skoe khoziaistvo kapitalisticheskikh stran; statisitcheskii sbornik. Moskva, Gos.izd-vo se''khoz.lit-ry, 1958. 247 p. (MIRA 12:5)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut ekonomiki sel'skogo khozyaystva. 2. Otdel nauchnoy informatsii po ekonomike i organizatsii sel'skogo khozyaystva zarubezhnykh stran Vsesoyuznogo nauchno-issledovatel'skogo instituta ekonomiki sel'skogo khozyaystva (for all except Tulupnikov, Solov'yev, Rakitina, Zubrilina). 3. Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta ekonomiki sel'skogo khozyaystva (for Tulupnikov). 4. Zamestitel' direktora Vsesoyuznogo nauchno-issledovatel'skogo instituta ekonomiki sel'skogo khozyaystva (for Solov'yev).

(Agriculture--Statistics)

NAZARENKO, V.I., kand. ekonom. nauk

Irrigation farming in the U.S.A. Gidr. i mel. 17 no.1:49-51 Ja '65.
(MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut ekonomiki sel'skogo khozyaystva.

SHINKEVICH, I.I.; LUKHIN, I.N.; [illegible], V.T.; NEPOMNYASHCHIY, I.L.; TELEPNEV, N.A.; KHARCHENKO, G.L.; [illegible]; NAZARENKO, V.L. KOVALEVA, Z.G., red.

[Album of equipment for the chemical shops of coke by-product plants] Al'bom oborudovaniia khimicheskikh tsekhov koksokhimicheskogo zavoda. Khar'kov, Izd-vo Khar'kovskogo univ. Pt.1. 1964. 109 p.
(MIRA 18:10)

AUTHOR: Nazarenko, V.M. SOV/68-58-10-2/25

TITLE: On the Intensity of Stirring During the Flotation of Coal Slurries (Ob intensivnosti peremeshivaniya pri flotatsii ugol'nykh shlamov)

PERIODICAL: Koks i Khimiya, 1958, Nr 10, pp 6 - 9 (USSR)

ABSTRACT: The influence of the degree of aeration and of the rpm of the impeller on the flotation process was investigated. For this purpose, the following types of determinations were carried out: 1) the simultaneous influence of the aeration and the intensity of stirring by the usual method (with the air tube completely open); 2) the influence of aeration at a constant rpm of the stirrer; 3) the influence of the rpm of the stirrer at a constant supply of air (to isolate the influence of stirring). Experiments were carried out in a 2.2 litre model of the Mekhanobr flotation machine. The experimental conditions - Table 1, experimental results - Tables 2, 3 and Figure 1. It was found that the intensity of stirring has a substantial influence on the efficiency of flotation. With a considerably smaller supply of air introduced into the pulp and a high rpm of the impeller, a maximum technological effect can be obtained. An increase in the air supply

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On the Intensity of Stirring During the Flotation of Coal Slurries

decreases the selectivity of the flotation process (due to mechanical carry-over) to a much higher degree than an increase in the stirring intensity. In modern designs of flotation machines it would be advantageous to increase the number of revolutions of impellers as an increase in the power consumption will be more than compensated by the increased productivity of the machines.
There are 3 tables, 1 figure and 4 Soviet references.

Card 2/2