

ANDREYCHENKO, A.V., inzh.; KONSTANTINOV, T.F., inzh.; DAV, Z.I., inzh.;
SMEKALOV, A.G., inzh.

Study of the stresses in the rods of reinforced concrete power transmission line towers. Energ. stroi. no.32:78-83 '62. (MIRA 16:5)

1. Beskudnikovskiy zavod zhelezobetonnykh konstruksiy (for Andreychenko, Konstantinov). 2. Moskovskiy filial Vsesoyuznogo instituta po proyektirovaniyu organizatsiy energeticheskogo stroitel'stva (for Dav, Smekalov).

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AUTHORS: Gibalo, I. M.; Alimarin, I. P.; Davaadorzh, P.

TITLE: Certain derivatives of dithiocarbamic acid as reagents for niobium

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 7, 1963, 835-833

TOPIC TAGS: dithiocarbamic acid, niobium, reagent.

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ABSTRACT: Authors carried out studies on sodium piperidinedithiocarbamate (NaPrDTK), ammonium phenylhydrazinedithiocarbamate (NH₄FDTK), ammonium pyrrolidinedithiocarbamate (HH₄FDTK), and sodium diethyldithiocarbamate (NaDDTK). Purpose of the study was to select the most suitable reagent for niobium from this class. The niobium was precipitated by a 20-fold excess of the above-indicated reagents in a wide range of acidity. Results are tabulated. Tests results show that niobium is quantitatively precipitated from NH₄FDTK and NaPrDTK in a weakly acid (pH 4-5) and a strongly hydrochloric acid medium (8-10 N HCl). NaDDTK can be used only in a weakly acid medium (pH 4-5). NH₄FDTK does not quantitatively precipitate niobium. The differences in the reactions of these reagents can be explained by their different stability in solutions. NH₄FDTK, for all practical purposes, does not decompose in aqueous solutions, whereas NaDDTK and NH₄FDTK

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decompose rapidly. The best reagent turned out to be NH₄PDFK, which authors used in further studies. Conditions for extraction of niobium pyrrolidinedithiocarbamate from tartaric, citric, and oxalic acid solutions were studied. Authors pointed out that niobium pyrrolidinedithiocarbamate can be quantitatively extracted from concentrated hydrochloric acid solutions (8-10 N HCl) as well as from tartaric and oxalic acid solutions at pH 4-5. Conditions for back extraction of niobium from the organic phase were found. Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

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AUTHOR: Gibalo, I. M., Corresponding Member of the Academy of Sciences USSR,
and Alimarin, I. P., and Davaadorzh, F.

TITLE: Extraction of niobium pyrrolidinedithiocarbamate

PERIODICAL: Akademiya nauk SSSR. Doklady. v. 149, no. 6, 1963, 1326-1327.

TEXT: Derivatives of dithiocarbamic acid are valuable analytic reagents to rare elements, but, aside from sodium diethyldithiocarbamate (Na = DDTC), they have not been sufficiently investigated. One of the less well-known derivatives of this kind is ammonium pyrrolidinedithiocarbamate ($\text{NH}_4 = \text{PDTC}$), a reagent that is more stable in aqueous solutions than Na = DDTC. It has been used for the gravimetric determination of niobium and its separation from tantalum by the precipitation method. The authors were the first to investigate the conditions of the quantitative precipitation of niobium by $\text{NH}_4 = \text{PDTC}$ and the extraction of the resulting compound by different aqueously insoluble organic solvents. Experiments with different amounts of Nb_2O_5 (2-30 mg) showed that niobium pyrrolidinedithiocarbamate (Nb = PDTC) is quantitatively precipitated only from tartrate and oxalate solutions in the form of a white amorphous residue by 20-fold excess of reagents in the presence of acetate buffer at pH = 4-5. In the extraction of Nb = PDTC chloroform proved to be the best solvents. The relationship between extraction by chloroform and acidity of solution is established. There is 1 figure.

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8/0075/64/019/004/0467/0469

AUTHOR: Gibalo, I. M.; Alimarin, I. P.; Devnadorzh, P.

TITLE: Separation of niobium from tantalum and titanium by extraction with ammonium pyrrolidinedithiocarbamate.

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 4, 1964, 467-469

TOPIC TAGS: niobium analysis, tantalum, titanium, extraction, ammonium pyrrolidinedithiocarbamate

ABSTRACT: The article describes the possibility of separating niobium from tantalum and titanium by the extraction of niobium pyrrolidinedithiocarbamate (PDTC) in a weakly acidic as well as in concentrated hydrochloric acid. For checking the efficiency of extraction, use was made of Nb⁹⁵ and Ta¹⁸². The experiments have shown that in ammonium acetate buffer (pH = 5) Ta does not react with NH₄PDTC either in pure solutions or in the presence of niobium. The NbPDTC is satisfactorily extracted with chloroform in the presence of tantalum up to the ratio Nb₂O₅:Ta₂O₅ = 1:1.5. At a higher content of tantalum it is not possible to obtain quantitative separation. In concentrated HCl (9N) the extraction is analogous.

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Thus, tantalum interferes with the extraction of niobium if the concentration of the former exceeds that of the latter by more than 1.5 times. It was here found experimentally that ammonium pyrrolidinedithiocarbamate in the presence of tartrate ions does not react with titanium either in acid or in alkaline medium. This condition was utilized for the separation of niobium from titanium. In an acid medium (8 - 10 N HCl) quantitative separation is obtained even when the ratio is $Nb_2O_5:TiO_2$ - 1:100. In tartrate medium (pH = 5) separation by chloroform extraction is not possible. Orig. art. has: 4 tables.

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GIBALO, I.M.; BELYKH, I.P.; DAVYDOROV, P.

Fractionation separation of niobium from zirconium, tungsten, uranium, and iron by ammonium pyrocatechol-sulfonate.
Vest. Mosk. un. Ser. 2:Khim. 20 no.4:73-75 JI-Ag '65.

(MIRA 18:10)

L. Kafedra analiticheskoy khimii Moskovskogo gosudarstvennogo universiteta.

DEAK, P.,; ROZSAHEGYI, I.,; DAVAI, J.

Spontaneous formation of a fissure of the joint in caisson workers.
Acta med. hung. 8 no.2:125-131 1955.

1. Rontgenologische Abteilung der Poliklinik Peterfy Sandor Utca
und Klinische Abteilung des Landesinstituts für Arbeitsmedizin,
Budapest.

(KNEE, pathology,
in caisson workers, form. of fissure)
(DECOMPRESSION SICKNESS,
knee fissure in caisson workers)

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Danilova, B.