RECOVERY OF METALS FROM ELECTROPLATING INDUSTRY WASTE RINSE WATER BY ION EXCHANGE RESINS

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Copper (II) and Zinc (II) were recovered from acidic waste rinse water of electroplating industry. Synthetic waste rinse water treated with two different ion exchange resins. Amberlite252 Na form and Amberjet 1200 Na form a strongly acid cation exchange resins. Cupper and Zinc were eluted with HCl.

For recovery of Copper (II) from synthetic acidic cupper plating waste rinse water and Zinc (II) from synthetic acidic zinc plating waste rinse water with strongly acid Amberlite 252 and Amberjet 1200 a cation exchange resins capacities were found with a column experiments and presented the breakthrough curves.

NEW WAYS OF ATOMIC ABSORPTION DETERMINATION OF SOME ELEMENTS WITH USE OF HETEROPOLYCOMPLEXES

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The reaction of 11-tungstophosphate with cobalt (II) has been used for indirect spectrophotometric and atomic absorption determination of phosphorus. General procedure of indirect determination of phosphorus on cobalt consists in the following. At first should be prepared 'unsaturated' heteropolyanion with the 'Keggin' structure:

$$H_2PO_4^- + 11WO_4^{2-} + 16H^+ = PW_{11}O_{39}^{7-} + 9H_2O$$

The undecatungstophosphate quickly reacts at room temperature with certain hydrated cations, for example, Co (II), to form very stable in the range of pH 2-6 derivatives [8].

$$PW_{11}O_{39}^{7-} + Co^{2+} = PCoW_{11}O_{39}^{5-}$$

HPA can be completely prepared only in this way.

It is found that is required 10-15-fold excess of cobalt or wolframat ions to ensure the complete formation of mixed HPA. Excess of cobalt is separated from mixed heteropolyanion with use of cation ion-exchange resin KU-2 in Na^+-form. Cobalt can be determined after destruction of a heteropolyanion or as a complex with α-nitroso-β-naphtol, or on measuring of absorption of cobalt atoms using flame air-acetylene (λ=240,7 nm). Linear dependence of absorbance of cobalt from phosphate concentration is kept in two studied cases in the same range

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