



Quantitative determination of metals containing oximes

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Except the alkaline metals and alkaline-earth metals and some heavy metals such as Pb, Fe, etc the majority of elements within this class emerge in small amounts, dispersed in natural backgrounds, in raw materials, deposits, industrial waters, dead catalysts and not ultimately in rivers basin, lakes and oceans. Presently, trials are being more and more intensively undergone for their isolation and concentration as well as for rare metals recovery, which are expensive. In order to solve these issues researchers shall widely resort to the use of different types compounds, among which the oximic derivatives are to be found. The intended outcome for the accomplished theoretical and experimental researches is to provide the possibilities for the use of oximes as precipitating reagents and the determination of some metals within the analytical practice.

In the present work there are shown physico-chemical characterization with middle transformation IR spectra, TG, DTA, and DTG measurements studies the thermal behavior of the nickel (II) chelates with asymmetric α -dioximes. These complexes have a great importance from the analytical methods for determining the metal mentioned under this form. The work presents also the spectrometric methods for determining the nickel with aliphatic asymmetric dioximes, namely the methyl-ethyl-dioxime, respectively methyl-isopropyl-dioxime.

The statistical interpretation of the experimental data, in comparison with other methods which are known in the literature and we specially refer to the determinations based upon the reaction of nickel with dimethylgioxime certify that the worked out methods of the present work are enough accurate and reproducible for the purpose we have in view. The asymmetric dioximes may set up potential organic reagents in the analytic determinations of nickel and palladium, as they are extremely sensitive and selective for this metal.