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Nickel Sulfate Quality Assessment Obtained from Waste Hydrogenation of Vegetable Oil

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Abstract

The aim of this work is to evaluate the quality of the nickel sulfate obtained from a recovering process of nickel sulfate from wastes of hydrogenation of vegetable oils. In the sulfate, were quantified Cu, Cr, Pb, Zn and Ni, using Atomic Absorption Spectroscopy (AAS). After that the nickel sulfate was submitted to purification process using active carbon. It was observed that the metals Cu and Cr presented concentrations below the allowed limit to the commercial nickel sulfate, whereas the Zn and Pb concentrations were above that limit. The Pb was removed by complexacion with EDTA followed by adsorption in active carbon, and the Zn didn't show removal with the employed methodologies. The Ni quantification in the sulfate using AAS showed better results in 352,4 nm. The effluent in the process was analyzed and treated with active carbon, being removed 98,6 % of the Ni concentrations existing in it.

Keywords: Nickel sulfate, waste recovery, active carbon
