RECOVERY OF p-HYDROXYBENZOIC ACID FROM WASTEWATERS BY REACTIVE EXTRACTION

1. EXTRACTION MECHANISM AND INFLUENCING FACTORS

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Abstract

The comparative study on reactive extraction of p-hydroxybenzoic acid with Amberlite LA-2 and D2EHPA in two solvents with different polarity (n-heptane and dichloromethane) indicated that the extractant type and solvent polarity control the extraction mechanism. Thus, the reactive extraction with Amberlite LA-2 occurs by means of the interfacial formation of an aminic adduct with three extractant molecules in low-polar solvent, or of an salt with one extractant molecule in higher polar solvent. Similarly, the extraction with D2EHPA is based on the formation of an acidic adduct with two extractant molecules in n-heptane, or of an salt with one extractant molecule in dichloromethane. The most efficient extraction has been reached for the combination Amberlite LA-2 - dichloromethane. The values of extraction constant depend on the formation of the interfacial hydrophobic adducts.

Key words: p-hydroxybenzoic acid, reactive extraction, Amberlite LA-2, di-(2-ethylhexyl) phosphoric acid

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