

Pretreatment of Biodiesel Feedstocks by Liquid-Liquid Extraction with Methanol

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Depending on the kind and quality of feedstock to be used in biodiesel production , a series of pretreatment process should be applied to the oil, in order to remove phospholipids, free fatty acids, wax, and water, before the alkali catalyzed transesterification reaction. One of the deacidification methods for high acidity oils is liquid-liquid extraction based on different solubilities of fatty acids and triglycerides in various organic solvents. In this study , liquid-liquid extraction of high acidity feedstocks, such as, used frying oils and crude rapeseed oils, with methanol were investigated , and the amounts of extracted FFAs , phospholipids and polar compounds were determined for different extraction parameters for both cross-current and countercurrent extractions . Based on the results obtained, a new process flow diagram was proposed for the pretreatment of the high acidity biodiesel feedstocks.