

Olive Oil Deodorisation Disillate: As a Source of Industrial Chemicals

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Olive oil; as a nutritive and precious oil is refined physically due to increased amount of free fatty acids and unacceptable sensory characteristics. Steam distillation is a key process to refine olive oil under elevated temperature and vacuum. Deodorisation distillate is a waste containing high amount of fatty acids, sterols, and squalane in case of olive oil refining.

Olive oil deodorisation distillate is a very good source for the production of industrial chemicals. In this study; olive oil deodorisation distillate is reacted with alcohols to undergo esterification reactions to form fatty acid esters. These esters have a wide spectrum of usage in various sectors of food and chemistry. Process parameters such as temperature, vacuum, process time, and catalyst type/concentration is optimized by using response surface methodology for the production of various emulsifiers. Esters produced at optimum reaction conditions are also tested for their emulsification capacity.

As a result; various emulsifiers are obtained by optimized esterification reactions from olive oil deodorisation distillate; which is found to be a future promising source for the production of industrial chemicals.