

**TRANSESTERIFICATION PROCESS
TO MANUFACTURE
ETHYL ESTER OF COCONUT OIL**



PERMANENT REFERENCE

BY

R.R.J. PERERA

517698

ABSTRACT

A process for the production of the ethyl ester of coconut oil has been studied. The essential part of the process was the Transesterification of coconut oil with ethanol in the presence of a reusable catalyst to yield the ethyl ester of coconut oil as a product and glycerin as a by product. Experiments have been performed to determine the optimum conditions for the preparation of ethyl ester of coconut oil. The process variables were (i) Temperature (ii) Amount of ethanol (iii) Reaction time to reach the maximum conversion (iv) Catalyst and the condition of the catalyst.

The optimum conditions received are (i) 50⁰C (ii) 108g of absolute ethanol (iii) One hour reaction time period (iv) Cation exchanger resin (DOWEX 50W-X 8(11) standard grade) could be used as a solid state catalyst for the transesterification reaction. The use of a solid state catalyst makes the separation of products easier and greatly simplifies the esterification process.