


**UTILIZATION OF  
CASHEW NUT SHELL LIQUID FOR  
COATING APPLICATIONS IN  
LOCAL INDUSTRIES**

by  
**K. SUNIL FERNANDO**

 University of Moratuwa, Sri Lanka.  
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A dissertation Submitted as partial fulfilment of the requirement for the  
award of Master of Science Degree in Polymer Technology, University  
of Moratuwa, Sri – Lanka.

**Polymer Technology Division  
Department of Chemical Engineering  
University of Moratuwa  
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I am deeply in debt and thankful to my late parents for guiding me right through out my life journey.

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**ABSTRACT**

Cashew nut shell liquid (CNSL), which is locally obtainable in abundant quantity, has not been hitherto commercially exploited in any Sri-Lankan industry. As the liquid has been identified as a mixture of phenolic substances with polymerizing character, attempts have been made in this work to investigate its application in coating as a polymeric binder resin.

In the procedure, raw CNSL was purified by a modified technique and then treated with formaline for polymerization. The polymerized product was then tested for its suitability as a polymeric binder resin in varnishes.



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The test results show that 1) the polymerized product could alone be used successfully as a binder resin with driers for making air drying varnish and 2) the polymerized product in combination with Short Linseed oil alkyd resin in the ratio of about 5 to 1 by weight could form an ideal binder resin for producing stoving varnish.

