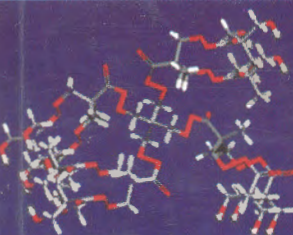


Sriyanbola T.O

NATIONAL SYMPOSIUM

ON

Polymers & Coatings



September 7-8, 2012

at

**CSIR-Indian Institute of Chemical Technology (IICT)
Hyderabad, India**



Organised by



**OIL TECHNOLOGISTS' ASSOCIATION OF INDIA
(Southern Zone)
Hyderabad - 500 007, India**

&



**CSIR-Indian Institute of Chemical Technology (IICT)
Uppal Road, Tarnaka, HYDERABAD - 500 007, INDIA**



Supporting Organisations



Indian Small Scale Paint Association (ISSPA)
Indian Resins Manufacturers Association (IRMA)



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Thermal Stability and Antibacterial Activity of a Newly Prepared Organic Coating from a De-saturated Seed Oil of *Thevetia Peruviana*

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Air drying polyesteramide-urethanes resins were synthesized from de-saturated fatty methyl ester (FAME) of *Thevetia peruviana* seed oil commonly known as Yellow oleanda (a tropical ornamental shrub) having about 68.8% unsaturated and 30.9% saturated fatty acids. Urea fractionation method was used to optimize the percentage of functional groups (in this case double bonds) by physio-sorption of the saturated fatty acids. The physico-chemical characterization of the optimized unsaturated FAME such as hydroxyl value, iodine value, saponification value, refractive index, inherent viscosity were carried out using standard methods. Through condensation reaction the *N,N*- bis(2-hydroxyethyl) *Thevetia peruviana* (HETA) prepared from the FAME react with isophthalic acid to form polyesteramide. The latter undergo urethanation with H^{1,2} MDI. The structural elucidation of the moisture cured polyesteramide-urethane urethane coating was based on FTIR, ¹H-NMR and ¹³C-NMR spectroscopic methods. The coatings films were evaluated for its antibacterial activity and thermal stability properties on TGA and DSC. SEM of the coating films was also examined.

