

SYNTHESIS OF DETERGENT FROM RICE BRAN OIL AND STUDY OF ITS QUALITY PARAMETERS INCLUDING CYTOTOXIC ACTIVITY

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ABSTRACT

In this research paper, biodegradable detergent was synthesized from *Oryza Sativa* (rice) bran oil. The prepared detergent was studied for several parameters such as % yield, surface tension, foaming ability, wettability, emulsion stability, biodegradability and cytotoxic activity. The foaming ability test for synthesized detergent showed the persistence of foam only for a very short time favoured the trend towards washing with minimum water. The synthesized detergent was found to be more biodegradable when compared to standard detergents. A study of cytotoxic activity on RBCs reveals that rice bran detergent is less toxic as compared to commercially available detergents thereby showing the potential of rice bran oil for the production of high quality biodetergent. The efficiency of the synthetic detergent was improved with the addition of foaming agents, bleaching agent and fragrance.

KEYWORDS: Biodegradable, Cytotoxic Activity, Detergents, Emulsion Stability, *Oryza Sativa* (Rice), Bran Oil and Surface Tension