

## INVESTIGATION OF THE SYNTHESIS AND PHYSICAL PROPERTIES OF POLYFURFURYL ALCOHOL

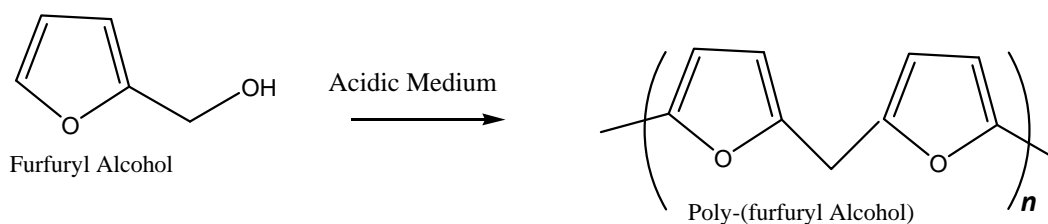
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### ABSTRACT

The most important derivative of furfural, “*the sleeping beauty of bio-renewable chemical*”, is furfuryl alcohol, which is used as a basic component for furan resins. Furfuryl alcohol finds very interesting applications in surface coatings, food flavourings and enhancers, renewable energy, the pharmaceutical industry, mortars, cements, chemically resistant resins, boiler floor grouting and in the adhesive industry<sup>1</sup>. A huge volume of furfuryl alcohol produced finds its application as sand binders (NO-BAKE foundry) in the metal casting industry. Over the years, the application of furfuryl alcohol as a bio-plastic has reached unprecedented height.



The polymerisation of furfuryl alcohol using Arrhenius, Bronsted and organic acids has been in the front burner. However, the use of Lewis acids has been reported to give faster reaction time for polymerisation. The study of the initiator and solvent parameter for furfuryl alcohol polymerisation has been the main area of our focus for this study.

Results so far obtained have been encouraging and are undergoing further confirmation. These results will be discussed in detail during poster presentation.

### References:

<sup>1</sup>Anthonia, E. Eseyin\*, Philip, H. Steele, “*An Overview of the Application of Furfural and its derivatives*” Int. Journ. of Adv. Chem. **3** (2) (2015) **42-47**