

Ultrasound assisted pre-treatment to enhance the hydrolysis step

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ABSTRACT

Sustainable, economical feasible and green resources for energy energy and chemical products have people's attention due to global energy demand and environmental issues. Crude-oil consumption and environmental pollution can be reduced by producing Bioethanol from biomass. Due to the high-octane number and high heat of vaporization, bioethanol is used as the best proportionate mixed fuel with gasoline. Bioethanol can be produced from lignocelluloses by using a major pathway of biochemical conversion of lignocellulosic materials through saccharification and fermentation. Several new balanced and individual process development strategies are required to produce bioethanol in economical and eco-friendly form. To determine the overall efficiency of processes designed to convert lignocellulosic polysaccharides to ethanol, it is first necessary to determine the effect of the pretreatment method on the lignocellulosic substrates. The use of low-intensity ultrasound has gotten surprising consideration over the last decade as a method for enhancing the enzymatic activity on the pretreated biomass. This article gives an overview of the effect of ultrasound pretreatment of biomass.

Key words: Bioethanol, Lignocellulose, Saccharification, Fermentation, Ultrasound.

