

## عنوان مقاله:

Application of deep eutectic solvent (DES) and ionic liquids in biomass preprocessing and processing

## محل انتشار:

پانزدهمین کنگره ملی و اولین کنگره بین المللی مهندسی مکانیک بیوسیستم و مکانیزاسیون کشاورزی (سال: 1402)

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## خلاصه مقاله:

Nowadays, due to excessive use of petroleum and environmental pollution, replacing renewable resources with non-renewable resources has become important. Biomass is an extensive energy source that can be converted into different types of valuable materials. In general, biomass includes the remains of plant products, wood and forest waste and urban solid waste. Lignocellulosic biomass consists of cellulose, hemicellulose and lignin, and there are different methods for converting biomass into valuable products. Using solvent for processing and preprocessing of biomass is one of the most common methods of extracting cellulose, hemicellulose, and lignin. In the past years, inorganic and environmentally incompatible solvents were used, but today two types of green solvents named ionic liquids and deep eutectic solvents (DES) have been introduced as green alternative to these solvents. In this study, the possibility of using these two types of green solvents for the processing and pre-processing of biomass and the applications of these two solvents have been reviewed. Additionally, the applications of DEEP in biodiesel production have been investigated.

## کلمات کلیدی:

Biomass, Ligno-cellulose, lignin, cellulose, Hemi-cellulose, biodiesel, solvent, Deep eutectic solvent, liquid ionic

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