

# TRASFORMATION OF ETHANOL INTO BUTANOL

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The invention refers to the method for obtaining higher aliphatic alcohols starting from aliphatic primary alcohols by means of a condensation reaction.

**Protection:** International

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## INVENTION

The applications of ethanol arouse increasing interest due to the environmental concerns and for the large number of **innovative refining processes of biomass**.

The patented **catalytic system** is able to **improve yields, selectivity and reaction times**, through the Guerbet reaction for the controlled condensation of primary aliphatic alcohols, in the presence of an additive. Thus, the improved method contributes to overcoming the technological issues regarding by-products and to reduce the energy cost of the process.

## ADVANTAGES

- Conversion ethanol/butanol increased by 20%;
- 4-10 fold reaction time reduction;
- Stability of the process;
- Recycling both catalyst and additive.

## APPLICATIONS

- Automotive fuel additives;
- Polymer production;
- Valorization of biomass from waste products of supply chain.

## CONTACTS

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