



PROCESS FOR MAKING ETHERS FROM ETHANOL

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The Invention

UW-Madison researchers have developed a new method that allows for the transformation of ethanol into a blend of components (mainly long chain ethers) that can be used as a diesel #2 replacement. The process consists of (1) a Guerbet coupling step in which ethanol is transformed into ethers; (2) a hydrogenation step where byproducts of the Guerbet reaction are eliminated; and (3) an etherification step in which higher alcohols are transformed into ethers. In comparison with earlier attempts, this method results in a higher yield of large ethers, a direct consequence of the use of a recycle stream containing butanol in the Guerbet reaction. Additionally, the use of hydrogenation in the second step immediately after the Guerbet reaction simplifies the required downstream separations significantly.

Additional Information

For More Information About the Inventors

- [George Huber](#)

Tech Fields

- [Clean Technology: Biobased & renewable chemicals & fuels](#)

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854