

Battelle Number(s):

11733

Patent(s) Issued

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Available Technologies

Conversion of Levulinic Acid to Methyl Tetrahydrofuran

SUMMARY

Methyl tetrahydrofuran (Me-THF) has shown potential as a component of P-series fuels—renewable fuels that can substitute for gasoline, and which are projected to boast competitive retail prices. Me-THF has also been demonstrated as a useful, less volatile replacement for tetrahydrofuran (THF), and could be used as a solvent for:

- * Organometallic chemistry, the study of chemical compounds involving bonds between carbon and metal

- * Grignard reagent formation

- * Extractions.

It may also be used as a replacement for methylene chloride, a volatile organic compound widely used as a solvent in consumer and industrial products, applications for which potentially safer alternatives are currently in demand.

ADVANTAGES

- * Less pollution created compared to alternative chemical processes

- * End product is useful as a component of renewable gasoline fuel

- * First direct and high yield synthesis of methyl tetrahydrofuran from levulinic acid

STATE OF DEVELOPMENT & AVAILABILITY

The process for converting levulinic acid to methyl tetrahydrofuran has been demonstrated at lab scale.

Potential applications include:

- * Chemical manufacturing
- * Renewable fuel production

Patents & Intellectual Property

- » Patent #: 5,883,266

Technology Portfolio(s)

- » Renewables
- » Bio-based

Potential Industry Applications

- » Agriculture & Mining
- » Chemicals
- » Energy & Utilities
- » Oil & Gas
- » Wood, Paper & Forestry

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