

Lubrication fluids from branched fatty acid methyl esters

A. What is this technology?

We have developed a new lubrication fluid based on vegetable oil. Our technology utilizes methyl esters with a branched chemical structure that gives them properties that are necessary for effective lubricants.

B. What problem does it address?

- Most lubricants currently on the market are petroleum based. Due to increasing costs, alternative technologies are needed.
- Soybean oil is naturally a good lubricant. However, in its native state, it tends to oxidize, forming sludge-like materials which are not good for performance.
- The new material delivers much greater stability, yet retains the lubrication ability of the native oil.

C. What is the significance of this solution?

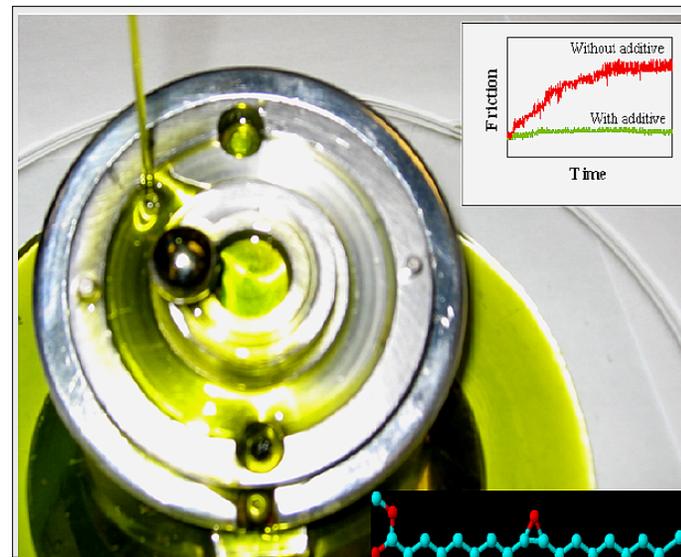
The global lubrication market is projected to reach \$47.2 billion by 2010. Replacement of even a small fraction of this market would be of value to manufacturers as well as to United States agriculture.

D. Who could use this technology?

This technology could be used by a current lubricant manufacturer looking to expand their product lines, especially into environmentally friendly markets.

E. How is this technology unique?

Our technology uses an easily performed synthesis, which can be much simpler than other methods used to modify vegetable oils.



Stage of Development

A U.S. patent application S/N 11/717,524, Method of making fatty acid ester derivatives, was filed on March 13, 2007 and the corresponding PCT, PCT/US2007/088224, was filed on December 18, 2007.



Moving Forward

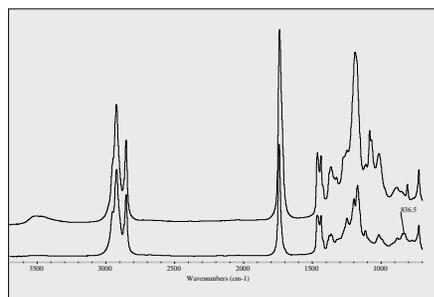
A partner is needed to perform scale-up and field tests in order to get this product into the market.

Researchers

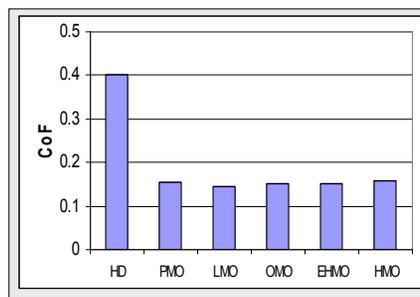
Kenneth M. Doll, ARS, Peoria, IL
Sevim Z. Erhan, ARS, Peoria, IL
B. K. Sharma, Pennsylvania State University

Contact Information

Kenneth Doll, Food and Industrial Oil Research Unit
National Center for Agricultural Utilization Research
(309) 681-6103; Kenneth.Doll@ars.usda.gov



FTIR spectra of the lubrication fluid



Friction reduction using these fluids

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