

Technology Licensing Opportunity

Non-Confidential Summary



Process for Synthesizing Polyol Catalyst

ROI# 07-005

Opportunity:

Researchers at the University of Saskatchewan have developed a strong base synthesis process from which the product is capable of catalyzing reactions at lower temperatures and in a less expensive solvent system.

Background:

Strong base catalysts such as metal alkoxides (egs. Sodium methylate, potassium tertiary butoxide) are broadly used in commercial organic syntheses and often preferred in specific reactions. The use of a strong base catalyst can be in but not limited to alkylations, arylations, acylations, aminations, acondensations, eliminations, isomerizations, rearrangements, and Witting reactions. Few example products are sildenafil (Viagra), the fungicide tebuwnazole, and biodiesel. Significant global market exists for a low cost strong base catalyst.

Invention:

In the current art a poly base catalyst is produced by the reaction of a weaker base with a poly alcohol. The use of poly alcohol is chosen because of its stability during storage and ready ability to form a polyalkoxide by reaction with base. The produced polyalkoxide has also lower sensitivity to water. This invention allows the preparation of bases using group 2 metal hydroxide with group 1 metal carbonates and recycled glycerol from biodiesel plant. The produced catalyst can be incorporated back into the biodiesel production facility and can facilitate biodiesel production under mild conditions.

Impact

The current method can be used to recycle a biodiesel byproduct (glycerol) in the preparation of high value catalyst that is necessary for the production of biodiesel. This process allows biodiesel production to be more efficient and increases profit margin. Specific polyalkoxides may be formed that are non-toxic for use as catalysts in food and drug synthesis.

Industry Liaison Office
121 Research Drive, Suite 501
Saskatoon, SK, S7N 1K2
Tel: (306) 966-1465 | Fax: (306) 966-7806

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Researcher profile:



Martin J. Reaney, Ph.D.
Professor and Ministry of Agriculture Strategic
Research Chair
Saskatchewan Agriculture Chair of Lipid Quality and
Utilization

Research interests:
Oil seed processing, vegetable oil chemistry

Patent Status:

(WIPO) PCT/CA2008/002091
EPO 08853591.9
U.S. 12/745277

Development Stage:

Ready for commercialization

For more information, please contact:

Frank Su
306-966-1727
Frank.su@usask.ca

or

Zafer Dallal Bashi
306-966-7033
Zafer.bashi@usask.ca

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Saskatoon, SK, S7N 1K2
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