

# 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 tebuconazole, 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.

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### ***Researcher profile:***



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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:***

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