

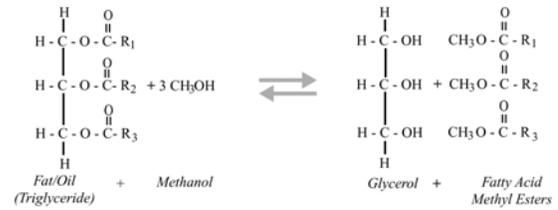
## Biodiesel Plant Development Seminar, What You Need to Know: Technology Processes and Provider Overview

Presented by:

Steve Howell  
August 25, 2005

I independent  
B biodiesel  
F feasibility  
G group, LLC

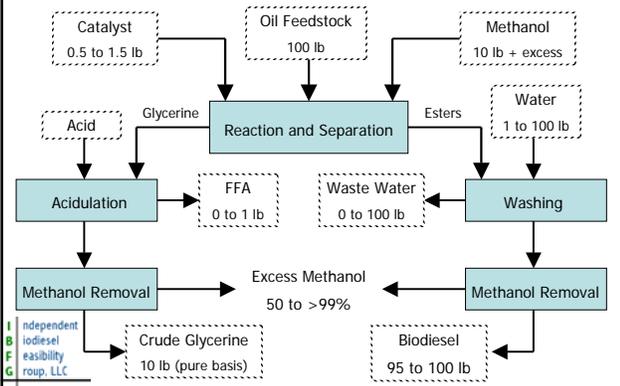
## The Transesterification Reaction



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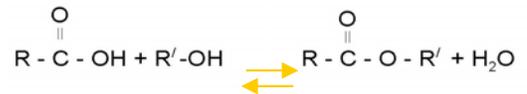
## Transesterification Material Balance

slide courtesy of Superior Process Technologies

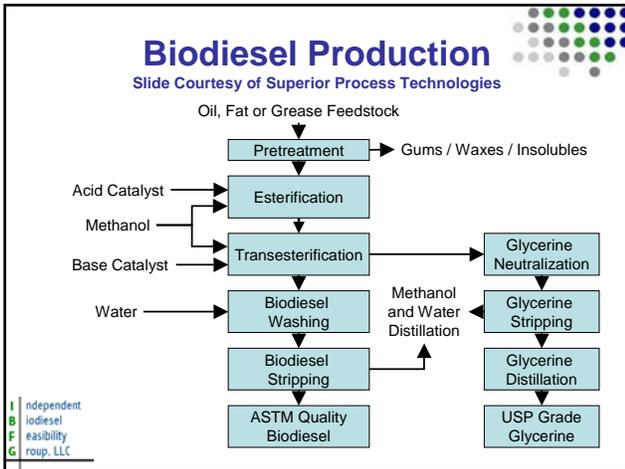


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## Esterification of Free Fatty Acid



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- ## Biodiesel Technology Providers
- There are a growing number of competent providers of biodiesel plant technology
  - Significant experience with 'clean' oils and fats
  - Growing experience with less valued 'dirty' feeds
  - Many options available
    - Turn key, custom design
    - Skid mounted
    - Other services and assistance
- Legend:**  
 I | independent  
 B | biodiesel  
 F | feasibility  
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- ## Biodiesel Technology Providers
- resource information for those discussed
- **Lurgi PSI**
    - <http://www.lurgi.de/english/nbsp/index.html>
  - **Superior Process Technologies**
    - <http://www.superiorprocesstech.com/>
  - **Biodiesel Industries**
    - <http://www.biodieselindustries.com>
  - **Cimbria Sket – Bratney**
    - <http://www.bratney.com>
  - **Crown Iron Works**
    - <http://www.crowniron.com/>
  - **Renewable Energy Group**
    - <http://www.renewable-energy-group.com/>
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## Educational Resources

- **BEN: Biodiesel Education Network**
- Web-based resource specifically for petroleum marketers
- Partnership between NBB/PMAA
- [www.pmaa.org](http://www.pmaa.org)
- [www.biodiesel.org](http://www.biodiesel.org)

The screenshot shows the 'Ask Ben' website interface. It features a header with 'Ask Ben' and 'Biodiesel Education Network'. Below the header, there is a section titled 'What do you want to Ask Ben?' with a form for users to submit their questions. The form includes fields for 'Your email address', 'Company', 'Title', 'Phone', and 'Fax'. A 'Submit' button is located at the bottom right of the form.

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## NBB Resources

- [www.biodiesel.org](http://www.biodiesel.org)
- Technical Library
- Biodiesel Bulletin
- Educational Videos Available
- Informational Resources
- Technical Resources
- On-line Database & Spec Sheets



### Other web sites:

- [www.nationalbiodieseleducation.org](http://www.nationalbiodieseleducation.org)

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## Other Biodiesel Resources

- [www.bbibioufuels.com](http://www.bbibioufuels.com)
- Biodiesel Magazine  
– A **MUST HAVE** magazine
- Biodiesel Industry Directory On-Line



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## IBFG

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