

# Biodiesel Quality Testing

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**UTAH BIODIESEL SUPPLY**  
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# You Know You're A Biodiesel Nut When....

- ...everything you own smells faintly like Biodiesel.
- ...your digital camera has more pictures of Biodiesel "stuff" on it than the kids and Birthdays.
- ..you visit a restaurant, instead of going to eat, you go to "check out the oil".
- ...on a fancy date at a nice restaurant you find some excuse to wonder into the kitchen and ask the head cook/chef what kind of oil they use
- ...whenever you see anyone driving a diesel you find some excuse to stop them and ask them if they've ever heard of Biodiesel.
- ...the bumper of your car is filled with Biodiesel bumper stickers instead of "my kids an honor student at..."
- ....your license plate reads "biodszl" or something like that.
- ....you go to Burger King not for a whopper but to 'pick up their oil'
- ....you own more T-Shirts that have something to do with Biodiesel on them than any other T-shirt.
- ...you can strike up a conversation with anyone on the finer points of converting vegetable oil into glycerin.
- ...you know what words like esterification, transesterification, acid/base method, polymerization, titration, and mist-washing mean.
- ...your garage floor has at one time or another been covered in waste vegetable oil.
- ...you own stock in the local kitty litter company (see above)
- ...your exhaust smells like the local hamburger fast food joint instead of like a normal diesel rig.
- ...your idea of "stopping up for fuel" at the local gas station only includes buying a hot-dog & soda and snacks.
- ...your idea of "puttering around in the garage" usually includes adjusting some plumbing on a hot water heater.
- ...all of your friends think you're a "mad scientist".
- ...a "day well spent" usually includes filtering oil, picking up oil, making biodiesel, or something like that
- ....you have showered with soap made from glycerin from your own Biodiesel production.
- ...you perk up anytime you hear the words "Canola, Soybean, Peanut Oil" or any other organic oil.
- ...you have a 55 gallon drum of Glycerin on the side of your house and biodiesel in the tank of your diesel vehicle.
- ...you've been nicknamed "burger king" by all your neighbors (true story).
- ...you know where the best place to buy Methanol, Sodium Hydroxide & Potassium Hydroxide are in your city.
- ...your back yard has more empty grease cartons (those oil carboy's from restaurants) than trash cans.
- ...your idea of a "good time" includes brewing some Biodiesel with a bunch of other Biodiesel geeks in your garage.
- ....you say "Anyone up for some brew?" and everyone pulls up in their diesels.
- ...you can quote the going rate of black steel pipe in your neighborhood.
- ...Utah Biodiesel Supply, B100 Supply, BiodieselNow, Infopop Biodiesel, and a bunch of other biodiesel websites would show up in your "browser history" file more than any other sites.
- ...your idea of a 'social life' includes doing a Biodiesel Workshop and a Biodiesel Coop Meeting. (sad, but true for me...)
- ...you search Northern Tool, Harbor Freight, and McMaster Carr not for cool stuff for your tool shed, but for cool gear you can make Biodiesel with.
- ...you see a 2 liter Dr. Pepper bottle and it brings back memories of the first time you made Biodiesel.
- ...you know how to wire an electric water heater with your eyes shut.
- ...you know the "gel point" of all of the waste vegetable oils behind most of the restaurants in your town.
- ...you know how to change a fuel filter out in the middle of no-where (and you're DAMN proud of it!).

**MORE AT THE INFOPOP BIODIESEL FORUM.....**



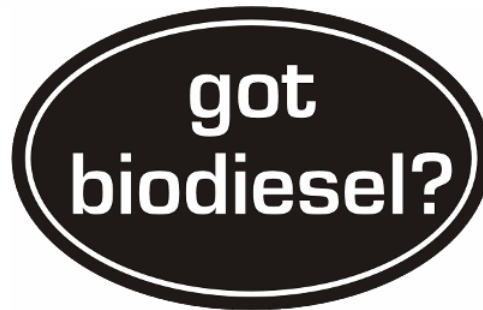
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...so you think you have bio, eh!

got biodiesel?



**BIODIESEL**  
THE DIESEL ALTERNATIVE



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# Testing Biodiesel For Quality

- Many Advanced Tests detailed at **COLLABORATIVE BIODIESEL TUTORIAL** ([www.biodieselcommunity.org](http://www.biodieselcommunity.org))
- Water Test in Feedstock & Biodiesel
- Titration Testing of Feedstock
- Methanol Test of Biodiesel (3/27 Test)
- ASTM Testing
- Purchase High Quality Testing Equipment

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# Testing For Water

- Why?
  - Water KILLS Biodiesel reactions
- How
  - The Fry Pan Test (Simple, Cheap, Quick)
  - The Microwave Test (Scale Needed)
  - Water Test Kit (Expensive but accurate)



# Titration Testing

- Why?
  - Tests for Free Fatty Acid Level
- How
  - Sample of oil, indicator, .1% KOH solution
  - Easy to do, simple to master
  - Better results if performed repeatedly
  - Instructions at [biodieselcommunity.org](http://biodieselcommunity.org)
  - Kits available through vendors

# Methanol Test

- Why?
  - Simple Test for conversion rates
- How
  - 3 mL of oil in 27 mL of Methanol
  - Test performed at 68 Deg
  - Look for drop out



# ASTM Testing

- Why?
  - It's the most accurate method
- How
  - Send off samples to a lab
  - Free & Total Glycerin is a good start
  - Then test for other things



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# High Quality Testing Equipment

- Why?
  - If you're going to start selling fuel
- Gas Chromatographs & Spectrometers



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# Resources

- B100 Supply Brewers Guide  
(<http://www.b100supply.com>)
- Collaborative Tutorial  
(<http://www.biodieselcommunity.org>)
- Infopop Biodiesel Forum  
(<http://biodiesel.infopop.cc>)
- Biodiesel Basics Forum  
(<http://groups.yahoo.com/group/biodieselbasics>)