



DarkStar VI – 841 St Louis Rd. Collinsville, IL 62234 – <http://www.biodieselgear.com/>

## Mist Washing Biodiesel

By Phillip Hill

To my knowledge, Brett Henville of Australia perfected this technique and first published details and test results on the [Maui Biodiesel Forum](#). This document is an explanation of his technique.

Biodiesel should be washed to remove the excess catalyst, alcohol and other impurities.

When Biodiesel is first made it is quite caustic with a pH of between 8.0 and 9.0. Washing with plain water is sufficient to wash out all remaining catalyst, bringing the pH down to near neutral territory.

For mist washing, you begin by filling your vessel about half full of unwashed Biodiesel and spray a fine mist of water over the top gently. You should use plant-misting nozzles designed to generate a very fine mist. Spray the mist over the top of the Biodiesel in such a way that you don't break the surface of the oil. If you break the surface of the oil it may form an emulsion of soap and what not. You want this to be as gentle as possible.

Since Biodiesel has a lower specific gravity than water, the water will sink to the bottom and the Biodiesel will remain on top of the water.

Turn on the spray and adjust the flow so that you're not using too much water too fast. You don't want water to pour in. As the droplets of water hit the surface they will slowly sink, passing through the Biodiesel taking with it any soluble material, mainly the remaining alcohol and catalyst to the bottom.

Your first round of washing, the water will be totally white and will collect in the bottom where you can drain it out after a few gallons have collected.

Basically, run the spray until you have collected a few of gallons of water in the bottom of your vessel. The amount of water you use for each wash is up to you. We have seen folks use just a couple of gallons per cycle all the way up to an amount equal to 50% of the batch. Drain the water. Repeat the mist wash until the water you drain is clear. This should amount to just a couple washes.

After the final draining of the water, let the whole thing sit for 12 hours so any remaining water will have a chance to settle to the bottom. Drain any remnant water.

Your Biodiesel should be lighter in color than it was to begin with.

If the Biodiesel remains slightly cloudy, heat it up to 55C(130F). This should clear it up. Let it cool and filter the Biodiesel through a 10-micron filter while cold.

Drying the Biodiesel requires little more than heating up the final Biodiesel to 55C(130F) and holding it there for 15 – 20 minutes. Any remaining water should evaporate out or drop out easily where it can be drained out.

Now you are ready to filter your Biodiesel into your storage containers or tank.

It is generally accepted to filter Biodiesel through a 10-micron filter before using it or placing it into storage containers. Filtering your fuel cold will remove any components that solidify at cooler temperatures.