



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

Bubble Washing Biodiesel

By Phillip Hill

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 bubble washing, you should start off with 50% water and 50% Biodiesel. Pour the water in first, and then pour in your Biodiesel. Next find an aquarium air pump and a large “air stone” used to introduce oxygen into the water of the aquarium. Attach the air stone to the air pump via an appropriate length of proper sized tubing so that the air stone lies on the bottom of your wash vessel.

Some aquarium air pumps have two pump heads and can supply more than one air stone. Depending on the size of your vessel, you may want to add more air bubbles using this type of arrangement.

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

Remember, the bubbles must be formed in the water portion of the mix for this to work.

Turn on the air pump. In a few seconds you will see a streams of small air bubbles rising to the surface, taking with them a very small amount of water, which is deposited on the top of the Biodiesel when the bubble pops. The water will slowly sink, passing back through the Biodiesel taking with it any soluble material, mainly the remaining alcohol and catalyst.

In the first wash, the water will turn almost totally white. This is because a form of soap is created when water comes in contact with the catalyst in the Biodiesel. It should clear up as the soap washes out with sub sequent washings.

Basically, run the air for 6 – 12 hours, then turn the air off and let the whole thing sit for 12 hours so all the water will have a chance to settle back to the bottom. The water at this point will be almost totally white in color and your Biodiesel will be lighter in color than it was

Drain the wash water after each washing. Repeat this wash three times or until the wash water is totally clear.

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 accepted that Biodiesel should be filtered through a 10-micron filter before use or dispensing into storage containers.