

BioDiesel Purification Efficiency Increases with Pall's PhaseSep® AS Liquid/Liquid Coalescer

Application

Acidic water – BioDiesel wash water separation downstream of centrifuge

The Challenge

Water soluble impurities, (glycerol, soap, salts and free water) remain in BioDiesel at unacceptable levels after acid water wash centrifuge separation step. The inability or variability of a centrifuge to further reduce these impurities negatively impacts product quality and increases processing costs and energy consumption.

The Solution

Pall's PhaseSep® AS liquid/liquid coalescer reduces impurity levels helping achieve in specification product. Installation of a PhaseSep AS liquid/liquid coalescer after an acid wash centrifuge will benefit the process by further reducing free water and water soluble impurities before methanol recovery or downstream drying steps.



Fig 2: Emulsion on (left), BioDiesel exiting coalescer (middle), acid water phase collected from coalescer (right)

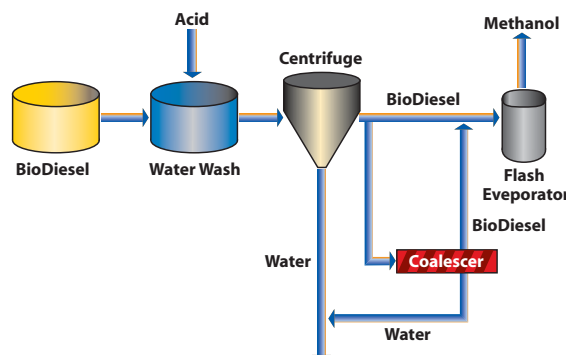


Fig 1: BioDiesel acid water wash schematic

The Results

Pall's PhaseSep AS liquid/liquid coalescer removed an additional 1200ppm of water in one case and 1700ppm in another. *(Actual results will vary based on process and feedstock. Testing to determine results at process conditions is recommended.)*

Benefits from reduced water soluble constituents:

- Glycerol value down to close to GC detection limit
- Complete removal of soap under specific process conditions
- Significant reduction in total contamination associated with water-soluble impurities
- Strong improvement in final product filterability tests
- Reduced energy consumed in drying



Pall Corporation

Fuels & Chemicals


25 Harbor Park Drive
Port Washington, NY 11050
+1 516 484 3600 telephone
+1 888 873 7255 toll free US

Portsmouth – UK
+44 (0)23 9230 3303 telephone
+44 (0)23 9230 2507 fax
processuk@pall.com

Visit us on the Web at www.pall.com

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