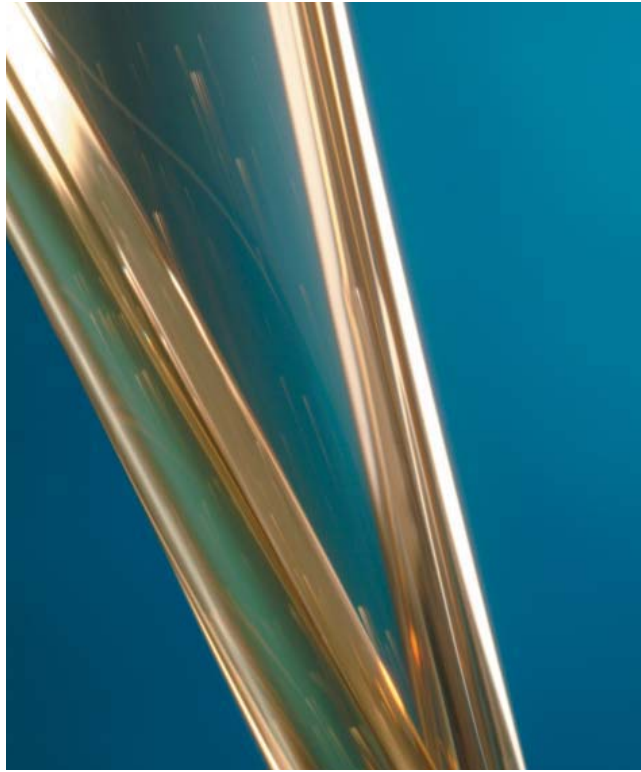


Biodiesel Test Kits



On the Spot, Rapid Determination of Biodiesel Quality. Fuel Testing Made Easy.



Biodiesel Test Kit (FG-K16897-KW)

Kittiwake's Biodiesel Test Kit brings essential quality checks to where they are most needed. Whether you are an end user or a manufacturer, results are provided in minutes, allowing the correct decisions to be taken at the right time.

As an end user, the quality and batch to batch consistency of the biodiesel can be confirmed. Stored fuel can quickly and easily be checked for degradation, contamination and suitability for use.

As a manufacturer, consistent production quality can be achieved. Process optimisation and trouble-shooting can be quickly and effectively carried out on site, in minutes. Base stocks can also be checked for suitability at point of delivery.

Manufacturers

The information obtained from the Biodiesel Test Kit allows manufacturers to:

- Save money by optimising the ratio of chemicals used.
- Ensure the quality of the base stock used, at the time of delivery.
- Refine and trouble-shoot the manufacturing process.
- Ensure the quality and consistency of the end product.

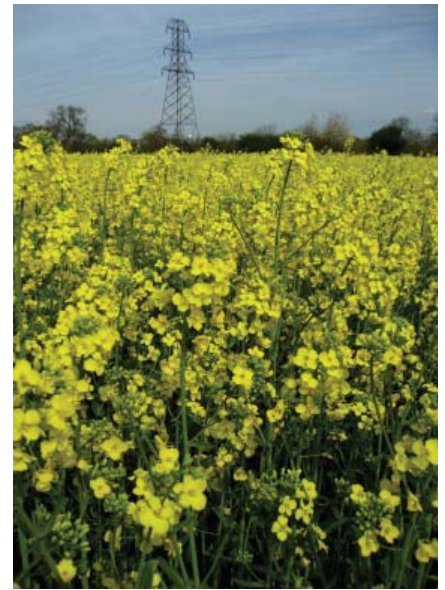
End Users

The critical parameters determined by the Biodiesel Test Kit allow end users to safe-guard machinery by:

- Ensuring the quality of the biodiesel at the time of delivery.
- Monitoring the consistency of the biodiesel from batch to batch.
- Checking stored biodiesel for any deterioration over time.

Biodiesel Test Kit Specifications

Test Parameter	Equipment Included	Range	Number of Tests
Water	DIGI Water Cell Reagents and Consumables	100 - 3000 ppm, 200 - 10000 ppm and 0 - 10%	50
Density	Hydrometer Hydrometer Jar Digital Thermometer	850 - 950 kg/m ³ 0 - 110 °C (1°C increment)	Unlimited
Viscosity	Falling Ball Viscometer Calibration Standard	1 - 10 cSt @ 40°C	Unlimited
TAN / Acid Content	ECON TAN Drop Test Reagents and Consumables	0 - 6 TAN	25
Visual Test	Sample Bottle Sample Beaker	Qualitative	Unlimited



- Quick, simple, on-the-spot quality assurance.
- Gain confidence in biodiesel suitability for use.
- Ensure correct storage occurs.
- Maintain, optimise and trouble-shoot each stage of manufacture.
- Check oil base stocks for quality and acceptability.

Biodiesel Test Kit Parameters

The Kittiwake Biodiesel Test Kit provides rapid determination of the following key parameters:

Density

The density of biodiesel is used to ensure the product is high quality, pure biodiesel. Post-manufacture, density can be used to check yield and to optimise the process.

850-950 kg/m³ Range:

- Ensure the biodiesel meets specification.
- Check yield and help optimise manufacturing variables.

Water

Water in biodiesel can lead to microbiological growth as well as the production of acids. In manufacture, water in the stock oil can reduce yields and increase process time.

100 - 3000 parts per million (ppm) Range:

- Ensure the biodiesel meets specification.
- Optimise drying times during manufacture.
- Check stored fuel for moisture absorption.

200 - 10000 parts per million (ppm) Range:

- Increase manufacturing yields by ensuring base stock is dry.
- Trouble-shoot drying process during manufacture.

0 - 10% Range:

- Trouble-shoot water contamination during manufacture.

Viscosity

High viscosity biodiesel can lead to poor combustion and possible engine damage. It can also give an indication of contamination present from manufacture.

1 - 10 cSt @ 40 °C Range:

- Ensure the biodiesel meets specification.
- Indicate possible glycerine/glyceride or methanol contamination.
- Helps optimise settling, cleaning and filtering processes during manufacture.

Total Acid Number (TAN) / Acid Content

As biodiesel is stored, it can acidify, reducing energy output and potentially leading to corrosion of storage vessels and fuel system components.

0 - 6 TAN:

- Ensure the biodiesel meets specification.
- Check stored fuel for degradation.

Acid Content:

- Check oil base stock for acid levels to optimise catalyst addition during manufacture.
- Check the quality of used oil base stocks at point of delivery.

Visual Test

A qualitative indication of the level of cleanliness of the biodiesel.

- Simply and quickly check the level of cleanliness of the biodiesel.
- Helps optimise the cleaning and filtration process during manufacture.



Additional Test Equipment



Free Fatty Acid / TAN

The Free Fatty Acid value of oil determines how much catalyst to use during biodiesel production. In this manner, catalyst use is optimised and biodiesel conversion can be maximised.

Ordering Information

FG-K17100-KW: Free Fatty Acid Test Kit

Range:	0-3%FFA, 0-6 TAN
Test Time:	2 Minutes
Number of Tests:	25



Low Range Water Test Kit

Water in biodiesel can lead to microbiological growth as well as the production of acids. In manufacture, water in the stock oil can reduce yields and increase process time.

Ordering Information

FG-K17032-KW: Low Range DIGI Water Test Kit

Range:	0.02-1%, 100-3000ppm, 0-10%
Test Time:	2 Minutes
Battery Life:	5 Years or 10,000 Tests



Cloud Point Detector

Different oil base stocks produce biodiesels of differing cloudpoints. Storing or using biodiesel below its cloudpoint will lead to partial or complete solidification of the fuel.

- Gives the minimum storage temperature for biodiesel.
- Helps optimise blending and wintering agent addition during manufacture.

Ordering Information

FG-K16954-KW: Cloud Point Detector (Extended Range)

Ambient Temp:	-20°C to +30°C
Diesel Test Temp:	Room Temperature
Display:	124 x 64 graphics LCD with LED backlight
Frequency:	50/60Hz
Power:	100-250 VAC
Range:	Multiple, user selected covering +25°C to -20°C
Sample Size:	0.5 ml
Test Time:	< 8 minutes



Field Incubator and Dipslides

The Kittiwake Field Incubator is designed for reliable incubation of bacteriological slides, on-site or in a laboratory. See the Kittiwake 'Field Incubator' datasheet for further details.

Code	Product	Range	Tests per pack
FG-K21364-KW	Field Incubator	Operating Temperature 30 - 45°C	1 Unit
BI-K21367	BT2 Dipslides	Aerobic bacteria	10



Flashpoint Tester

The flashpoint of biodiesel is used to detect contamination from low flashpoint methanol. Help optimise settling, cleaning and filtering processes during manufacture and ensure the biodiesel meets specification.

Ordering Information

FG-K16909-KW: Electronic Flashpoint Tester

Temp Range:	0 - 300 °C
Test Time:	1 to 99 minutes
Sample Size:	2 - 4 ml

Note: A standard butane (lighter) refill cartridge is required for operation.

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