

# TRANSPORTATION

**Biodiesel: Is your fuel now at greater risk of microbial contamination?**

**TRIED. TESTED. TRUSTED.**

**FUELSTAT**<sup>®</sup> provides rapid detection of microbial contamination in fuel





## Is sending samples to a lab for microbial fuel tests worthwhile or economical?

Traditionally, diesel fuel testing methods have depended on fuel samples being sent to a specialist laboratory for analysis. The next step is a waiting period of up to 4-7 days, or longer to get the results.

Sending the fuel samples to the lab isn't simple. ASTM D6469 highlights that if a sample is to be tested for microbial contamination and cannot be tested on-site, it should be transported on ice and tested within 24hrs or the sample may no longer be a true representation of the environment from which it came. Delays cause varying results which may cause an increased risk to your asset.

- Why take the risk?...
- Why wait 4-7 days for a test report?

**FUELSTAT® SOLUTION**  
**TEST. RESULT. REPORT**

**within 15 minutes**



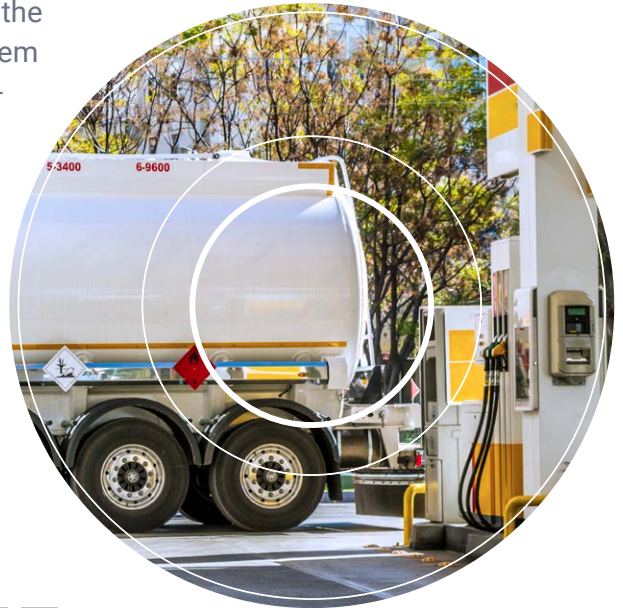
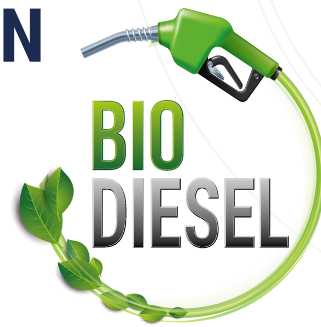
## ROAD & RAIL TRANSPORTATION

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Microbial contamination can be very damaging to any operation if left unmonitored.

With modern engines becoming more finely tuned to meet strict controls on emissions and as such more friendly to the environment, many are suffering higher levels of fuel system issues. The reductions in sulphur and introduction of bio-content has had an impact on the ability of organisms (Diesel Bug) to thrive and as such is resulting in higher numbers of unplanned maintenance and unscheduled downtime of assets.

- Does your fuel contain dangerous levels of microbial contamination?
- **FUELSTAT®** can quickly help you find out!



## CAN YOU GUARANTEE THAT MICROBIAL CONTAMINATION IS NOT PASSED ON BY A FUEL SUPPLIER?

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How does a fuel supplier guarantee the cleanliness of supply from a tank or tanker, or pipeline?

The further down the supply chain you go post the sanitary environment of the refinery, the more susceptible an operation is and therefore testing is becoming increasingly important for all areas of the supply chain to ensure quality and aid efficient preventative maintenance programs to be undertaken.

- How are you addressing the risk of increased microbial contamination?
- Regular ***fuel tank testing*** is advised, both on the vehicle and at storage/transfer locations

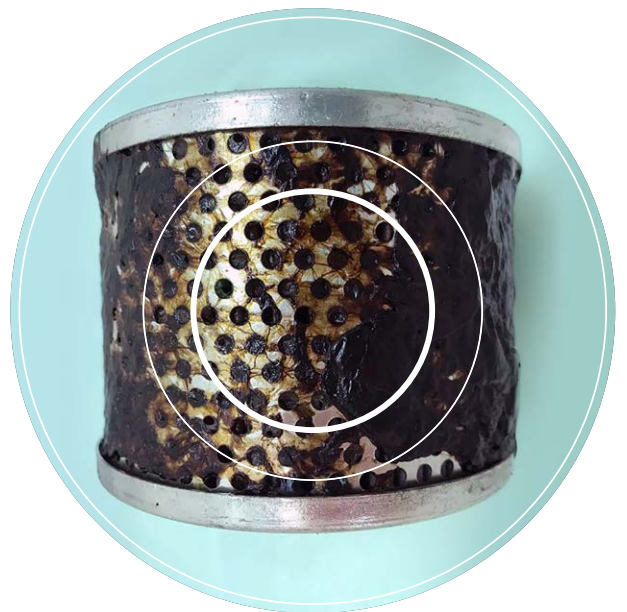
## MICROBIAL CONTAMINATION IN FUEL

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If you're a user or supplier of diesel fuels, microbial contamination can pose a serious threat to your business.

Microbial contamination, in particular, is almost always present in fuels to some degree. Left unchecked for too long, it can do serious harm to engines and tanks, and even cause leaks and environmental damage. Diesel "bug" microbial contamination creates a slime called a biofilm or biomass that can induce several issues. If left for a prolonged period of time without treatment, it can cause:

- Blocked filters
- Increased injector wear
- Increased fuel consumption
- Fuel starvation
- Less efficient engine operation
- Engine failures
- Corrosion and tank leakage



## HOW DO YOU MANAGE THE RISKS OF DIESEL FUEL MICROBIAL CONTAMINATION?

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A single case of diesel fuel microbial contamination, if left unchecked, can easily cost hundreds of thousands of pounds/dollars in damages and remedial activities. Basic fuel maintenance, in comparison, costs relatively little—so it makes good business sense to do these activities. To minimise the risks, there are three key activities you need to do:

1. Remove water from tanks
2. Store fuel correctly
3. **Test for fuel microbial contamination regularly...**

## THE SOLUTION IS AS SIMPLE AS 1-2-3

# FUELSTAT® PLUS

- The ultra-simple test that just requires **4 drops** of sample
- **15 minutes** to result as opposed to 4-7 days!
- **'Test at the tank'** technology - no laboratory required
- No requirement for additional **equipment** or **sterility measures**

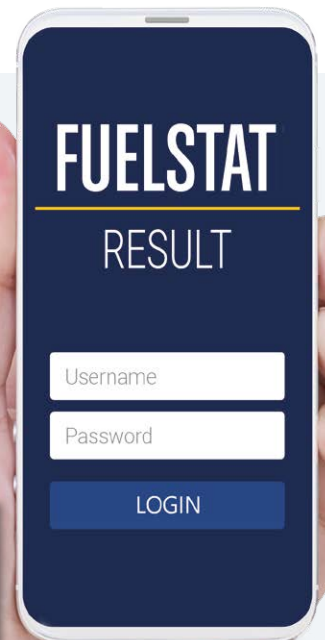


In critical times, you need a fast, convenient testing method - one that doesn't require multiple people to complete the process. Using FUELSTAT®, a single person can conduct tests at the tank after minimal training from our instructional videos. FUELSTAT® is based on immunoassay antibody tests. Just as a pregnancy test searches only for markers of human chorionic gonadotropin, FUELSTAT® only searches for the markers of bacteria and fungi that can grow in jet and diesel fuel and can potentially cause both operational downtime, corrosion and in worse case safety issues.

## FUELSTAT® RESULT



- The easy to use app that gives **immediate visual verification** of result
- **Reduces risk** of misinterpretation
- No need for additional equipment other than a smartphone
- Fully **detailed report** can be instantly produced in PDF format



FUELSTAT®		ANALYSIS REPORT	
Company name: Standard Address inputted From Portal		Registered User: Engineers Name	
Address: Input from Portal Registered Address		Test date: 24-JAN-2019	
Post code: From Portal		GPS location:	
Country: United Kingdom		Fuelstat result number: 3.361	
Customer reference: 124 - Portal Template		Printout date: 24-JAN-2019	
Identity: Example Test		Bacteria: <b>Negligible</b>	
Asset: jet 1		Fungi: <b>Heavy</b>	
Tank: Wing		Hormoconis resinae: <b>Negligible</b>	
Fuel lot: 4		Overall result: <b>Heavy</b>	
Fuelstat test lot: HR 2 411		Test method: ASTM D8070-16	
Comments			
Example test Report - Annual Maintenance Check			
FUELSTAT® Result data interpretation and guidance			
Alert level	Phase	Target antigen limits	
<b>Negligible</b>	Fuel	Up to 150 µg/L	
	Water	Up to 33 µg/ml	
<b>Moderate</b> - Repeat the test to confirm the result and increase the frequency of water drainage.			
	Fuel	Between 150-750 µg/L	
	Water	Between 33-166 µg/ml	
<b>Heavy</b>	Fuel	Greater than 750 µg/L	
	Water	Greater than 166 µg/ml	
<b>Heavy</b> - Consider general treatment, such as increased water drainage, biocide treatment, fuel filter change, fuel tank			
Phone make: Apple		Portal version: 1.2.2	
Phone model: iPhone 6s		Analysis approved by:	
App version:			
Disclaimer - FUELSTAT® Result is designed for use with tests which are fully compliant with ASTM D8070-16.			

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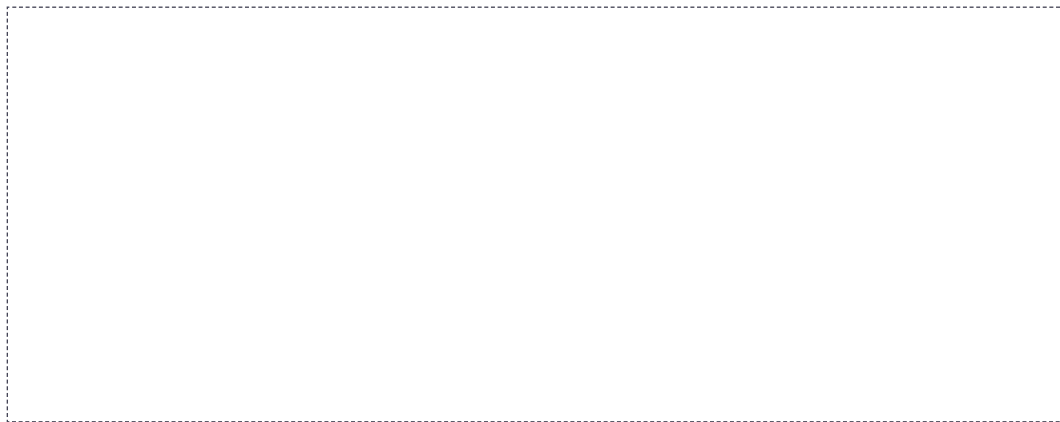
## FUELSTAT®

### Who we are:

FUELSTAT® fuel tests are developed, manufactured and marketed by Conidia Bioscience Ltd. Based in UK, Conidia Bioscience was founded in the early 2000's by experts in immunoassay techniques and holds the internationally patented intellectual property for FUELSTAT®.

### Where to find us:

FUELSTAT® is distributed globally by a network of specialist distributors covering the major sectors. To arrange for a distributor to support you simply contact [info@conidia.com](mailto:info@conidia.com).



FUELSTAT® meets the ASTM International D8070-16 Standard



FUELSTAT® is listed as an approved product by Joint Inspection Group



FUELSTAT® is listed as a recommended product by IATA. Conidia Bioscience is a Strategic Partner with IATA

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