FUELSTAT®

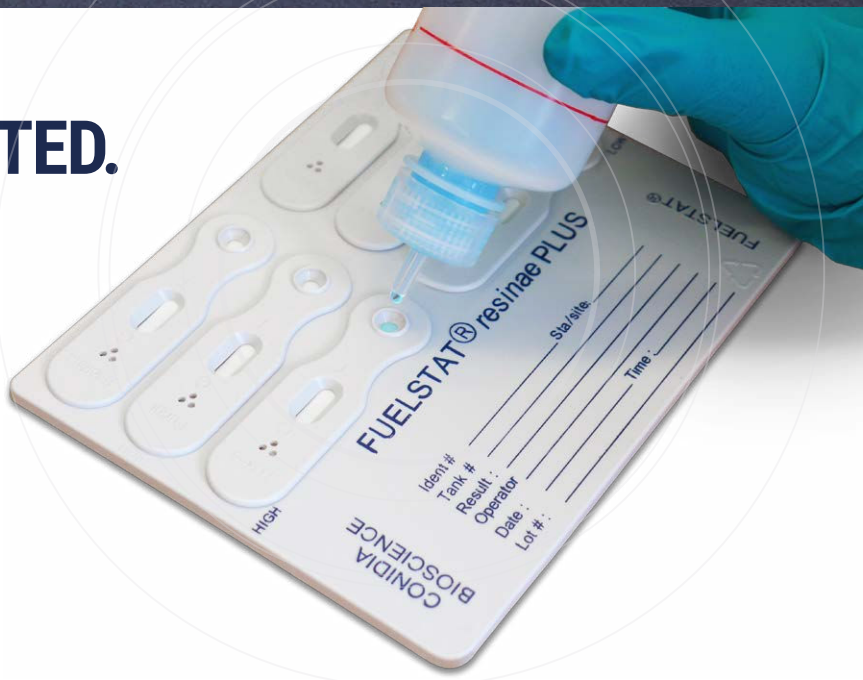
ConidiaBioscience

TRANSPORTATION

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

TRIED.TESTED.TRUSTED.

FUELSTAT® provides rapid detection of microbial contamination in fuel



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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

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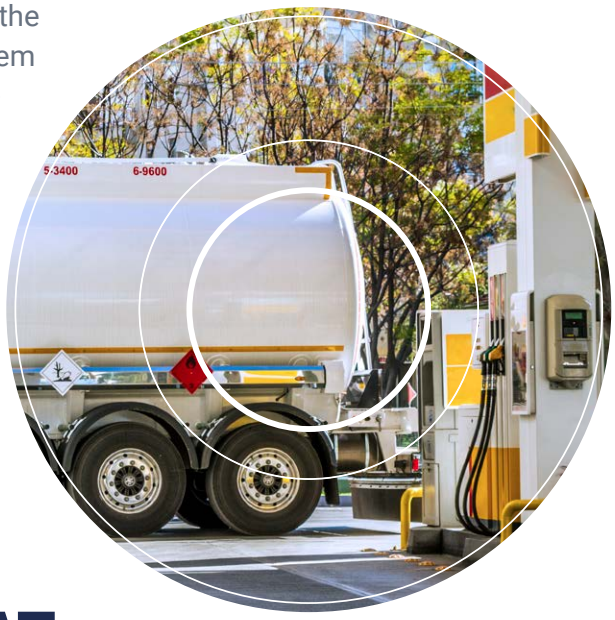
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ROAD & RAIL TRANSPORTATION



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?

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

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MICROBIAL CONTAMINATION IN FUEL

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?

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...**

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THE SOLUTION IS AS SIMPLE AS 1-2-3

FUELSTAT®*Plus*



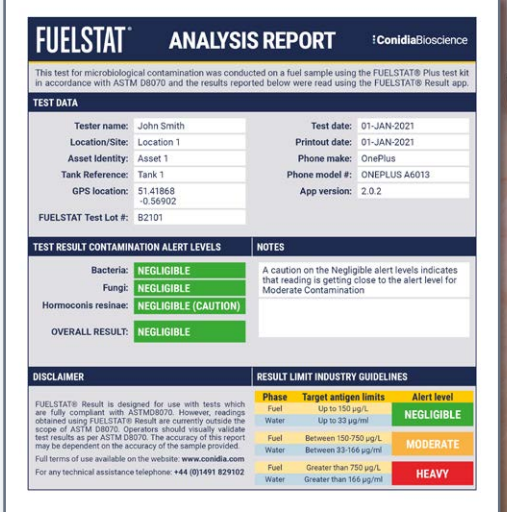
- The ultra-simple test that just requires ***4 drops*** of sample
- ***15 minutes*** to result as opposed to 4-7 days!
- ***'Test at the tank'*** technology - no laboratory required
- No requirement for additional ***equipment*** or ***sterility measures***

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® *Plus* is based on immunoassay antibody tests. Just as a pregnancy test searches only for markers of human chorionic gonadotropin, FUELSTAT® *Plus* 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 ConidiaBioscience

This test for microbiological contamination was conducted on a fuel sample using the FUELSTAT® Plus test kit in accordance with ASTM D8070 and the results reported below were read using the FUELSTAT® Result app.

TEST DATA

Tester name:	John Smith	Test date:	01-JAN-2021
Location/Site:	Location 1	Printout date:	01-JAN-2021
Asset Identity:	Asset 1	Phone make:	OnePlus
Tank Reference:	Tank 1	Phone model #:	ONEPLUS A6013
GPS location:	51.41868 -0.56902	App version:	2.0.2
FUELSTAT Test Lot #:	B2101		

TEST RESULT CONTAMINATION ALERT LEVELS		NOTES
Bacteria:	NEGLIGIBLE	A caution on the Negligible alert levels indicates that reading is getting close to the alert level for Moderate Contamination
Fungi:	NEGLIGIBLE	
Hormoconis resinae:	NEGLIGIBLE (CAUTION)	
OVERALL RESULT:	NEGLIGIBLE	

DISCLAIMER

FUELSTAT® Result is designed for use with tests which are fully compliant with ASTMD8070. However, readings obtained using FUELSTAT® Result are currently outside the scope of ASTM D8070. Operators should visually validate test results as per ASTM D8070. The accuracy of this report may be dependent on the accuracy of the sample provided.

Full terms of use available on the website: www.conidia.com

For any technical assistance telephone: +44 (0)1491 829102

RESULT LIMIT INDUSTRY GUIDELINES

Phase	Target antigen limits	Alert level
Fuel	Up to 150 µg/L	NEGLIGIBLE
Water	Up to 33 µg/ml	
Fuel	Between 150-750 µg/L	MODERATE
Water	Between 33-166 µg/ml	
Fuel	Greater than 750 µg/L	HEAVY
Water	Greater than 166 µg/ml	

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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.

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