

# FUELSTAT®

ConidiaBioscience

## HEAVY PLANT & EQUIPMENT

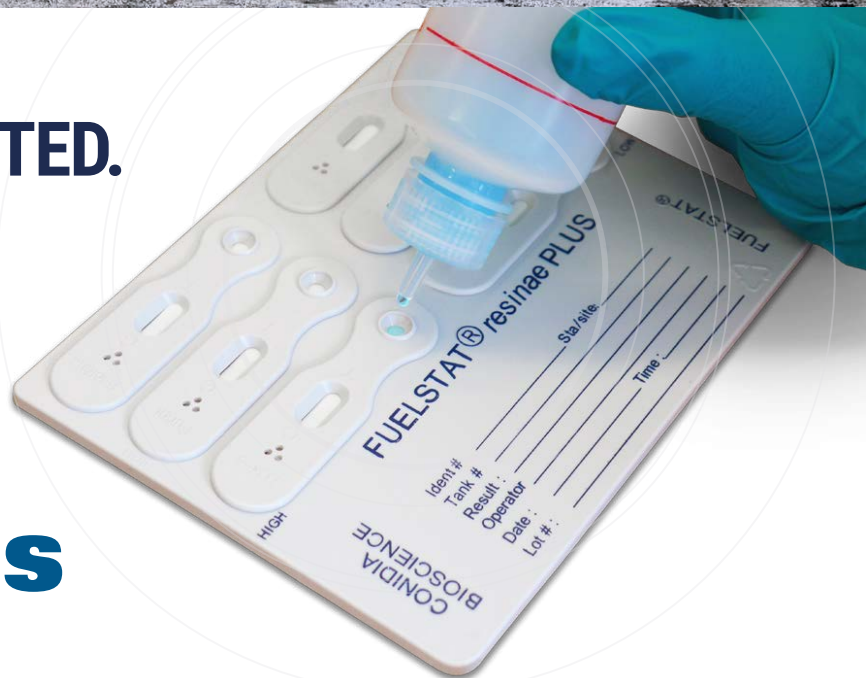
Time is money so keep the wheels turning

**TRIED. TESTED. TRUSTED.**

*FUELSTAT®* provides rapid detection of microbial contamination in fuel

# Blackwoods

13 73 23 / [blackwoods.com.au](http://blackwoods.com.au)



# FUELSTAT®

ConidiaBioscience



## Is sending samples to a lab for microbial fuel testing 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 10 days to get the results.

Sending fuel samples to a lab is not simple at the best of times but especially in the often-remote locations in which this equipment usually operates. ASTM D6469 stresses 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 days to do what FUELSTAT® can do in minutes?

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

**within 15 minutes**



**Blackwoods**

13 73 23 / [blackwoods.com.au](http://blackwoods.com.au)

## HEAVY PLANT & EQUIPMENT

---

Is your equipment at risk?

Whether its mining, construction or some other function using Heavy Equipment, often in remote locations with limited fuel supply options, time really is money. The sheer size of some of this equipment, and the cost of running them, means that they are usually transported to site, so a breakdown can lead to considerable recovery cost, reduced productivity, or expensive downtime.

Therefore, protecting the fuel that powers equipment should be a priority for any site, and this includes careful monitoring and management of microbial contamination (a.k.a diesel bug) because:

- **Diesel engines are at high risk of microbial contamination.** Modern diesel fuels always have at least some level of microbial contamination. And when fuel storage facilities are not sufficiently maintained, contamination has more time to grow to dangerous levels.
- **Severe microbial contamination could mean disaster.** If contamination grows quickly between tests, it can be transferred to equipment and stop them from working.
- **Traditional fuel tests are inconvenient.** Testing for contamination usually involves hiring an external team, sending samples off-site, and waiting days for results.
- **Contamination risks are often underestimated.** Many maintenance contractors do not realise how fast diesel bug grows, or the danger it presents.

The only way to have total confidence in fuel quality is with an appropriate fuel maintenance program that incorporates regular, accurate testing - so there is 0% room for error.

## Why is heavy equipment at risk from microbial contamination?

---

Middle distillate fuels can be affected by contaminants like water, particulates (e.g. rust and dust), and microbes.

Microbial contamination begins with the presence of any water in the fuel, which gets into fuel systems largely through condensation and grows in the space between water and fuel. Diesel fuel is particularly at risk of microbial contamination due to its properties. In the last 10+ years Fatty Acid Methyl Ester (FAME), also called biofuel, has been added to diesel. FAME is susceptible to microbial contamination because it attracts and holds water.



## MICROBIAL CONTAMINATION IN FUEL

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

Once this microbial contamination starts to develop, it can get out of control quickly. The microorganisms produce a thick, slimy material called biomass, which clogs engines and stops them from working properly. Biomass can also influence metal corrosion, causing permanent damage to tanks and mechanical parts. If left for a prolonged period of time without treatment, it can cause:

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



## HOW CAN YOU DEFEND YOUR ASSETS AGAINST MICROBIAL CONTAMINATION?

There is no way to completely prevent microbes from entering fuel. These microbes are all around us, in the air and on surfaces, and can enter the fuel in numerous ways once it leaves the refinery. Most importantly, even the well-maintained fuel delivery systems will experience condensation - and when water gets into fuel, microbes do too. If severe microbial contamination is discovered in your fuel, it can be treated with special fuel cleansers and biocides. However, this procedure can cost many thousands of dollars and usually requires taking your fuel and equipment out of action. 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 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**

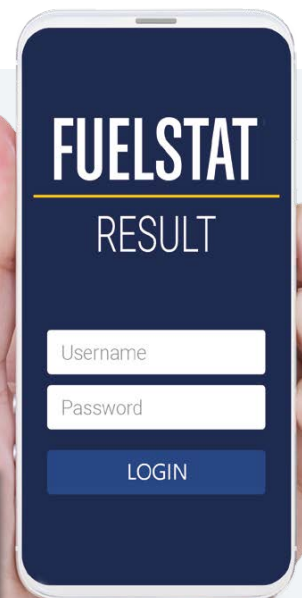


In critical times, you need a fast, convenient testing method - one that doesn't require multiple people to complete the process. Using FUELSTAT®, a single person can conduct tests at the tank after minimal training from our instructional videos. FUELSTAT® is based on immunoassay antibody tests. Just 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 fuel and can potentially cause both operational, 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: Negligible	
Asset: jet 1	Fungi: Heavy	
Tank: Wing	Hormoconis resinae: Negligible	
Fuel lot: 4	Overall result: Heavy	
Fuelstat test lot: HR 2 411	Test method: ASTM D9070-16	
Comments		
Example test Report - Annual Maintenance Check		
FUELSTAT® Result data interpretation and guidance		
Alert level	Phase	Target antigen limits
Negligible	Fuel	Up to 250 µg/L
	Water	Up to 33 µg/ml
Moderate	Fuel	Between 250-750 µg/L
	Water	Between 33-166 µg/ml
Heavy	Fuel	Greater than 750 µg/L
	Water	Greater than 166 µg/ml
Phone make: Apple Portal version: 1.2.2		
Phone model: iPhone 6s Analysis approved by:		

**TRIED. TESTED. TRUSTED.**

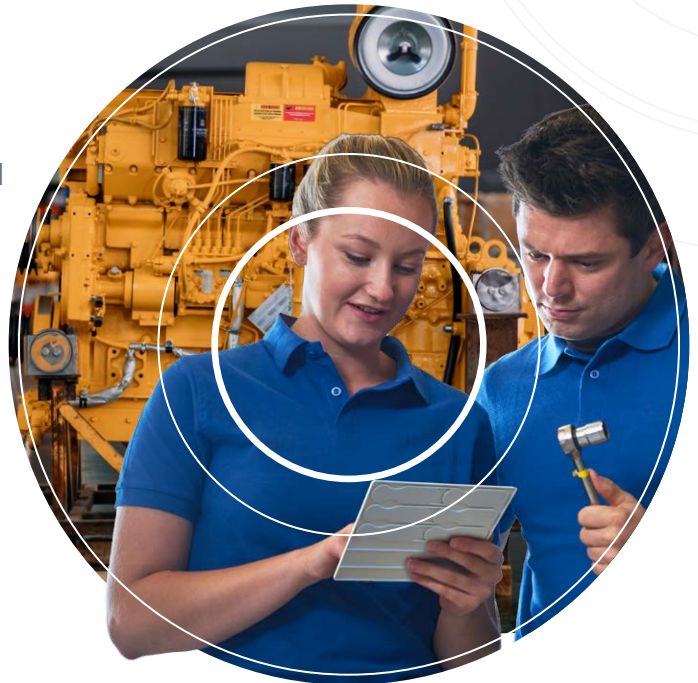
# FUELSTAT®

## 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).



	NATO Stock Number	Vendor Number	Part Name	Nato Name	Part Number
Marine, Land Diesel & Fuel Storage	4940 99 907 9225	FMD8	Fuelstat® Diesel Plus	FUEL TEST	0309 3494

**Blackwoods**

13 73 23 / [blackwoods.com.au](http://blackwoods.com.au)

### HEADQUARTERS & GLOBAL SALES OFFICE

Conidia Bioscience Ltd  
 Bakeham Lane, Egham,  
 Surrey, TW20 9TY, UK  
 +44 (0)1491 829102  
[info@conidia.com](mailto:info@conidia.com)

**Conidia Bioscience**  
[WWW.CONIDIA.COM](http://WWW.CONIDIA.COM)

### US SALES OFFICE

Conidia Bioscience Inc  
 15 Briarwood Ln, Dover,  
 NH, 03820, USA  
 +1 407 616 0315  
[info@conidia.com](mailto:info@conidia.com)