

FUELSTAT® for Microbial Fuel Testing

Managing the Risks of Microbial Contamination in Fuel

FUELSTAT[®]One
ConidiaBioscience



Martechnic GmbH is an authorized distributor of Conidia Bioscience and its products FUELSTAT® One and AQUAFIGHTER®.

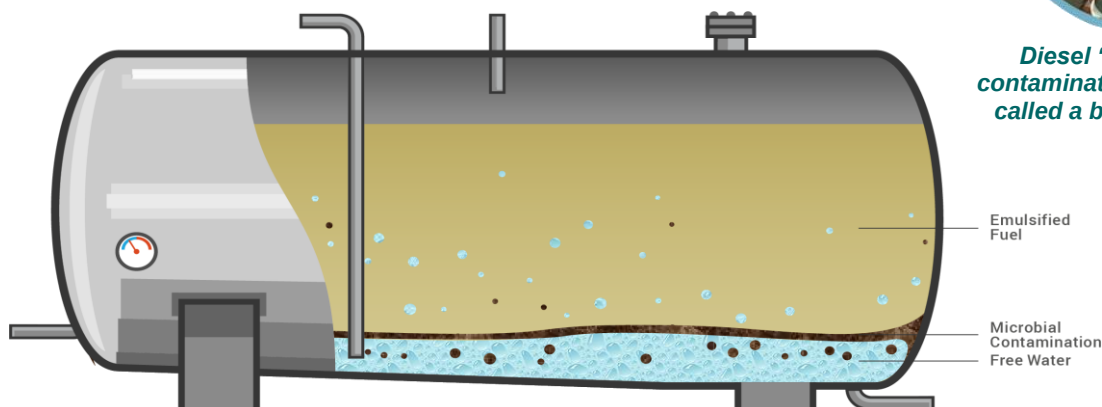
The continuous decarbonization efforts of the global maritime industry and recent stringent environmental regulations to minimize the environmental impact provide for growing usage of sustainable biofuels as a blend with conventional diesel fuel in different ratios or as pure product (B100) as substitute for both diesel fuel and marine fuel-grades.

However, the chemistry of some these new bio-components has different characteristics and can react differently in presence of environmental element such as water. The presence of excess water will deteriorate the fuel, promote microbial contamination, affect fuel performance, and deteriorate storage tanks, filtration system and ultimately the equipment in which it is used.

Microorganisms such as bacteria, fungi, and yeast can proliferate in fuel tanks, leading to biofilms and sludge formation, which can clog fuel filters and obstruct fuel lines, causing engine malfunctions or failures. Additionally, microbial activity can produce corrosive by-products that degrade fuel tanks and components.



Diesel "bug" microbial contamination creates a slime called a biofilm or biomass



Fuel Tank Microbial Contamination

Contaminated fuel can also reduce engine efficiency and increase emissions. Regular monitoring, maintenance, and proper fuel storage practices are essential to ensure fuel cleanliness and maintain reliability, safety, and efficiency.

Focusing on microorganisms and its potential effect on fuel itself and on fuel systems, it is highly recommended to test the environment in which the fuel is being stored. **FUELSTAT® One** is a simple **on-site test** (complying with **ASTM D6469** guidance for testing for contamination within 24 hours) to detect microbes that thrive and do damage in fuels with a total time from start to production of detailed electronic report in **15-30 minutes**. Advanced **lateral flow testing** technology means that **FUELSTAT®** is the only true on-site test that gives dependable results even in the dirtiest of conditions. The kits are self-contained, requiring no additional equipment. They are so easy to use that an individual can carry out the tests with only minimal training.



FUELSTAT^{One}

Each boxed test kit contains:

- Foil Packed Test Cassette
- Sample Extraction Bottle
- Syringe & Extraction Tube
- Instruction Leaflet
- Blue Nitrile Gloves

FAST & SIMPLE TEST FOR MICROBIAL CONTAMINATION IN FUEL

- The ultra-simple test that just requires **4 drops** of extracted sample
- **Quantative** result in **30 mins** as opposed to 4-7 days!
- **'Test at the tank'** technology - no laboratory required
- No requirement for additional **equipment** or **sterility measures**



FUELSTAT^{Result}

FUELSTAT® comes with a **FREE App** that scans the result instantly after the test has been completed. Use it with your test kit today for:



- ✓ **Sampling** guidelines
- ✓ Step-by-step **video test instructions**
- ✓ Instant test result **verification**
- ✓ Print or email **PDF test certificate**
- ✓ **Storage** of past results



FUELSTAT[®] Report



Total control of testing with FUELSTAT[®] Report

- Traceability of compliance centrally
- Excel format. All microbial testing data on one spreadsheet
- Fully **detailed report** can be instantly produced in PDF format
- Identification of hotspots and trend analysis
- Planning of correct testing program

FUELSTAT ANALYSIS REPORT		Conidia Bioscience	
REGISTERED USER			
Registered User:	John Smith	Address:	Example Lane
Company Name:	ABC Company	City:	Example City
Customer Reference:	123	Phone:	01234 5678
TEST DATA			
Tester Name:	John Smith	FUELSTAT Result At:	10.07.20
Location Site:	Location 1	Test Date:	01.06.2020
Asset Reference:	Asset 1	Product Code:	01-000-0001
Sample Reference:	Sample 1	Phase Code:	000001
API Location:	11-00000	Phase Number:	000001-000001
FUELSTAT Test Log ID:	000000	API Version:	0.0.0
TEST RESULT CONTAMINATION ALERT LEVEL			
Result:	0.000000	Alert:	0.000000
Warning:	0.000000	Alert:	0.000000
Overall Result:	0.000000	Alert:	0.000000
DISCLAIMER			
FUELSTAT [®] Report is generated by the user, using the FUELSTAT [®] software. The user is responsible for the accuracy of the data entered and the results of the analysis. The user is responsible for the accuracy of the data entered and the results of the analysis. The user is responsible for the accuracy of the data entered and the results of the analysis.			
CONIDIA BIOSCIENCE			
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Treatment and Prevention of Water in Fuel using Aquafighter[®]

Aquafighter[®] filters actively remove **bound, suspended** and **emulsified water** out of diesel fuel directly in the tank and keeps it water-free at all times. This is a simple, cost-effective solution to keep fuel tanks free from the problems associated with water in fuel tanks. **Aquafighter[®]** filters consist of a reinforced filter membrane containing a specially formulated polymer powder which chemically absorbs the water, swelling in size to the maximum capacity of the filter, with indication by changing colour to a dark reddish-pink.

- ✓ Long-term & short-term savings on maintenance and capital equipment
- ✓ Demulsifies diesel & biodiesel blends by maintaining water level within fuel specification in the tank at all times
- ✓ Protects fuel tank from microbial growth, corrosion and other related damages due to water accumulation
- ✓ Non-toxic, safe to handle and safe for the environment
- ✓ Stops the domino-effect of water damage from the tank through the fuel system to the engine



before

after



Install an **Aquafighter[®]** into your fuel storage tank and with minimum maintenance you can ensure that the water ppm within your fuel remains on-specification and well below saturation levels.

Aquafighter[®] products are available in a range of sizes and configurations, each with a different maximum water capacity to suit different tank sizes and openings, some of the Aquafighter[®] products can capture and remove up to 60 litres of water.