FUELSTAT®

:ConidiaBioscience

DEFENCE / MILITARY

Field-based test with NSN to detect Microbial Contamination in Jet and Diesel fuels
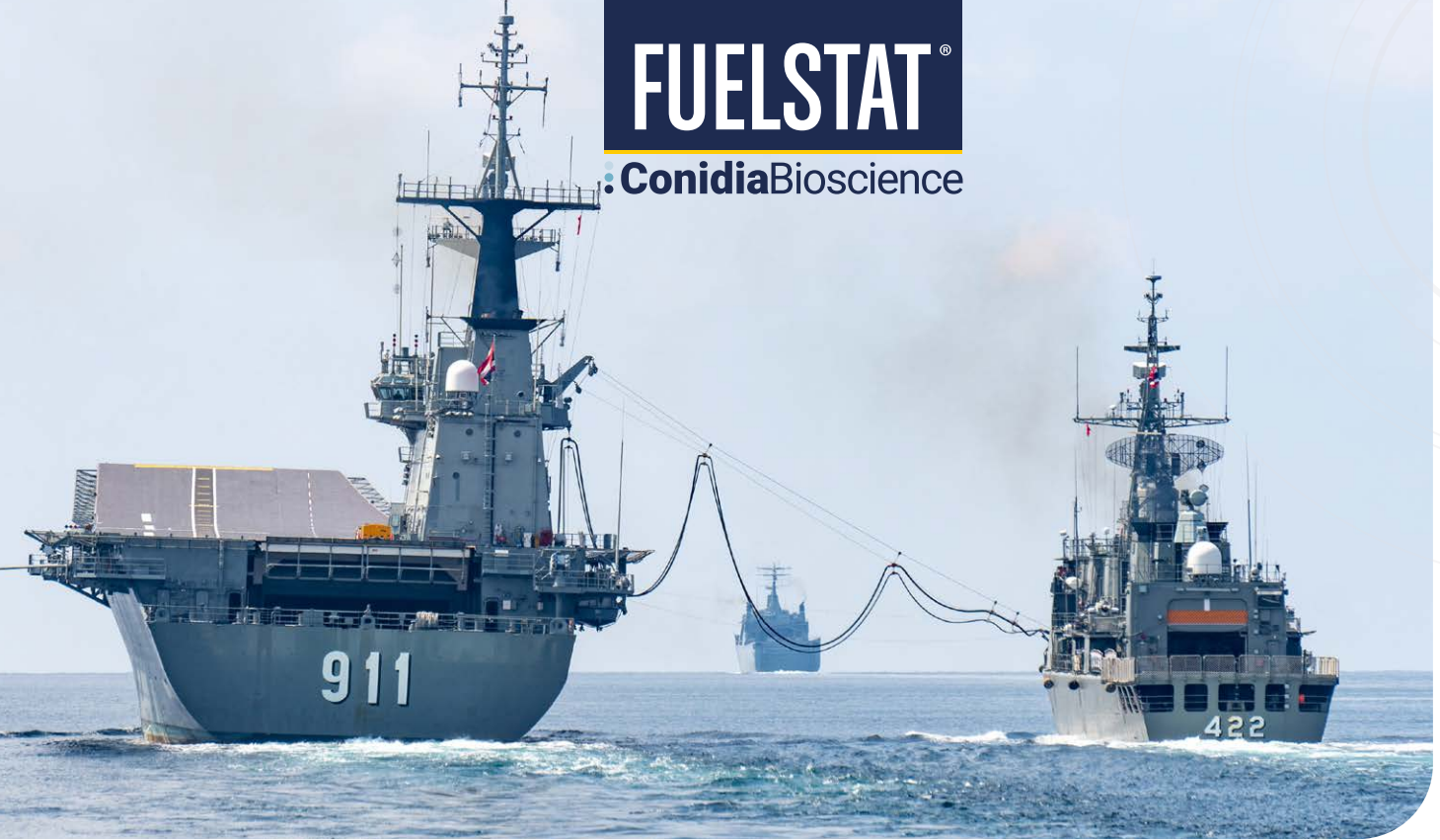
TRIED. TESTED. TRUSTED.

FUELSTAT® provides rapid detection of microbial contamination in fuel

Can military operations realistically adhere to these parameters?...

Traditionally, 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 days to do what FUELSTAT® can do in minutes?

FUELSTAT® SOLUTION
## TEST. RESULT. REPORT.

within 15 minutes

DEFENCE / MILITARY

Does your fuel contain dangerous levels of microbial contamination?

FUELSTAT® can quickly help you find out!

The very nature of military operations is such that activities are often carried out in times of conflict where time really is a matter of life or death. As such, can one really wait several days to identify whether their air, land or sea asset is at its optimum level, or potentially at risk of failure? The answer is, of course no.

Middle distillate fuels such as jet fuel and diesel are at risk of microbial contamination from very robust micro-organisms that feed off the hydrocarbons in fuel and are nourished by even the smallest amount of water produced by environmental factors such as condensation that can enter the fuel supply.
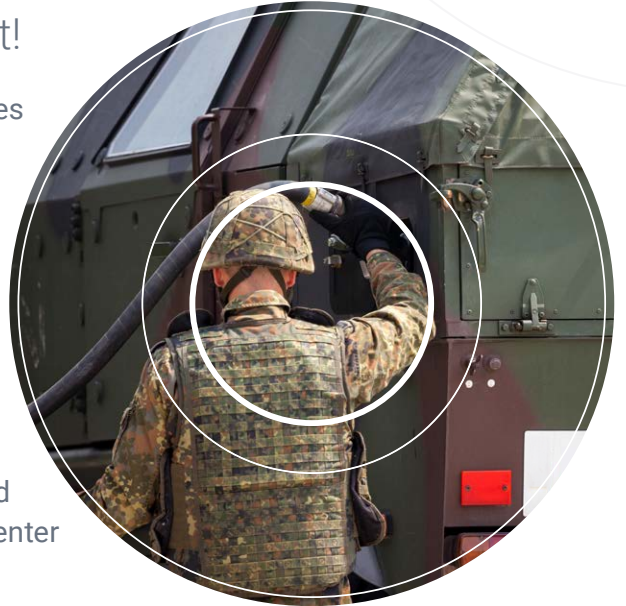
Field-based microbial fuel testing for all military operations

FUELSTAT® test kits have no special handling, transportation, storage or disposal requirements and are safe to be carried and administered in the real life conditions of most military operations, at a time when needed most. As a result these kits are widely approved by many Worldwide operations and include NATO stock numbers.

MICROBIAL CONTAMINATION IN FUEL

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

Once this microbial contamination starts to develop, it can get out of control quickly. The micro-organisms 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 microbial contamination regularly...**

FUELSTAT®
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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® 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.

MILITARY REFERENCES:

There are a variety of reference materials detailing fuel handling best practices to ensure fuel integrity in support of military operations:

- *NATO STANAG 3149* - Minimum quality surveillance for fuels
- National Military Technical Orders for fuel cleanliness

The FUELSTAT® diesel and jet fuel test kits carry the following NATO Stock Numbers (NSN) for easier ordering:

|	Part Number	Part Name	NATO Name	NATO Stock Number
Aviation	FHR8-2	FUELSTAT® resinae Plus	FUEL TEST	4940-99-615-6295
Marine, Land Diesel & Fuel Storage	FMD8	FUELSTAT® Diesel Plus	FUEL TEST	4940-99-907-9225

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.
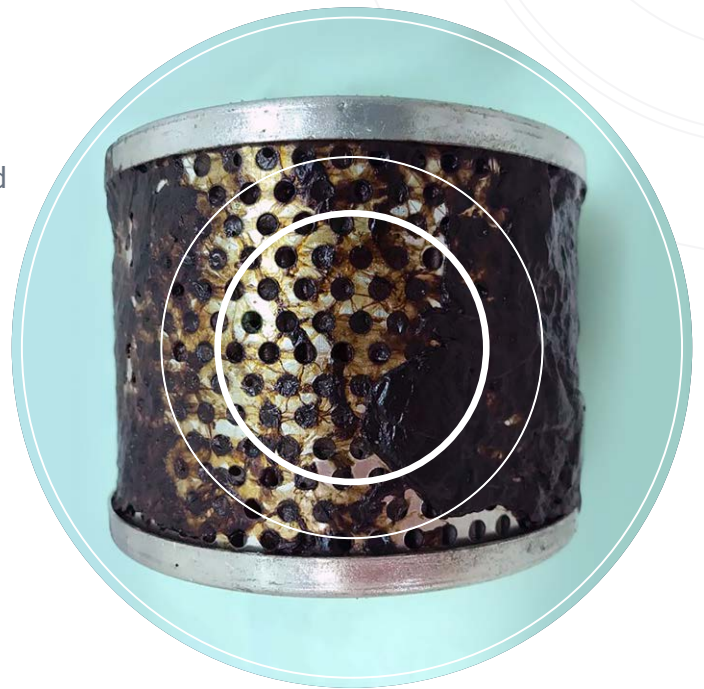
FUELSTAT® complies with ATSM D8070 and ASTM D6469 Standard Guide for Microbial Contamination in Fuels

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