



# SGS BUG TEST® KITS FOR MICROBIOLOGICAL TESTING OF FUELS

THE GROWTH OF MICROORGANISMS CAN HAVE A SERIOUS ECONOMIC IMPACT ON FUEL INTEGRITY.  
SGS BUG TEST® KITS ALLOW YOU TO DETECT MICROBIOLOGICAL CONTAMINATION ON SITE.



# HOW CAN YOU REDUCE THE **SERIOUS ECONOMIC RISK** ASSOCIATED WITH MICROBIOLOGICAL CONTAMINATION OF FUEL?

## MICROBIOLOGICAL TESTS FROM SGS

The presence of free water during fuel storage and distribution provides the ideal environment for microbial growth. Microorganisms living in the water feed off the hydrocarbons in fuel; as water collects inside fuel tanks the risk of microbial growth increases dramatically. While microorganisms tend to grow at the fuel/water interface in the fuel tanks, growth can also take place on the surfaces of the fuel tanks and pipelines.

Three major groups of microorganisms contaminate fuel systems: bacteria, yeasts and moulds. Moulds are the most problematic as they can lead to filter blockages.

### IMPACT OF MICROBIAL CONTAMINATION:

- Biodegradation of fuel
- Microbially induced corrosion of tanks/pipework
- Biofilm formation
- Production of corrosive acids
- Transfer-line flow restrictions
- Filter plugging
- Engine wear
- Corrosive deposits on engine parts (injectors, cylinder linings etc.)
- Reduced heat of combustion
- Fuel property deterioration: colour, pour point, cloud point, thermal stability
- Loss of additive performance
- Sludge formation.

### BENEFITS

Bug Test® Fuel Test Kits allow continual monitoring of microbial growth.

The kits are simple to use and require no microbiological training. Colour changes in four detection vials indicate the presence and severity of the contamination of four microbial types frequently found in fuel systems; general aerobic bacteria, yeasts and moulds, fuel degraders and sulphate reducing bacteria (SRB). The kits are designed to detect the onset of contamination but will also indicate where advanced contamination has occurred. Full instructions are included with each kit.

Bug Test® kits serve as an early warning to detect poor quality fuel deliveries or fuel deterioration during storage.

### APPLICATIONS

In addition to testing fuels such as automotive diesel, marine diesel, biodiesel and aviation jet fuel, Bug Test® kits can also be used to test water systems, e.g. produced water and cooling water systems.

### HOW CAN SGS HELP?

Using SGS Bug Test® Fuel Test Kits allows you to detect microbiological contamination on site. Many other microbiological tests are also available from our ISO 17025 accredited microbiology laboratory in Aberdeen, including:

- Enumeration of viable aerobic bacteria, yeasts and moulds of fuel and fuel components by IP 385
- Enumeration of sulphate reducing bacteria
- Enumeration of nitrate reducing bacteria
- Enumeration of general heterotrophic bacteria
- Fungal fragment content by IP 472.

SGS can also provide potable water analysis to ensure that water is fit for purpose by Enumeration of Heterotrophic Bacteria, Coliforms, *Escherichia Coli*, Enterococci and *Pseudomonas Aeruginosa* by DWI (UK Drinking Water Inspectorate) test methods.

### WHY SGS?

SGS is the world's leading inspection, verification, testing and certification company. SGS is recognised as the global benchmark for quality and integrity. With more than 67,000 employees, SGS operates a network of over 1,250 offices and laboratories around the world. We are constantly looking beyond customers' and society's expectations in order to deliver market leading services wherever they are needed.



Partnering with SGS opens the door to better performing processes, consistent and compliant supply chains and more sustainable customer relationships delivering profitable competitive advantage.

We have a history of undertaking and successfully executing complex laboratory projects and testing services programmes. With a presence in every single region around the globe, our people speak the language and understand the culture of the local market and operate globally in a consistent, reliable and effective manner.

### TO LEARN HOW SGS CAN HELP YOU TO CONTINUOUSLY MONITOR MICROBIAL GROWTH OR TO REQUEST A BUG TEST® KIT, PLEASE CONTACT:

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