

MicrobMonitor²

The quantitative test for
microbes in fuels, oils and water

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What is the test used for?

To identify and quantify the presence of all types of microbial contamination in petroleum products in storage, distribution and use including:

- Aviation fuel
- Marine diesels, gas oils and heavy fuels
- Automotive diesel and gasoline, including biofuels
- Fuels for power generation
- Lubricants and hydraulic oils

It can also detect microbes in water and other fluids.

Why test for microbes in fuels and oils?

Microbial contamination in fuel has caused aircraft to abort take off and ships to lose power and propulsion. If left unchecked contamination can:

- Restrict the flow of fuel and oils by blocking filters and pipes.
- Corrode tanks and bearings
- Degrade fuel and oil quality

Regular testing for microbes together with a good treatment and maintenance regime can:

- Improve asset performance
- Reduce operational risks

What is MicrobMonitor²?

The **MicrobMonitor²** is an easy to use test kit for microbial contamination with simple to read, reliable results. A small sample of fuel or oil is measured into a glass bottle containing a specially formulated gel. The number of microbial colony forming units (CFU) that develop indicates the severity of the contamination. Five **MicrobMonitor²** tests with sterile devices for measuring and dispensing samples are included in a single box.



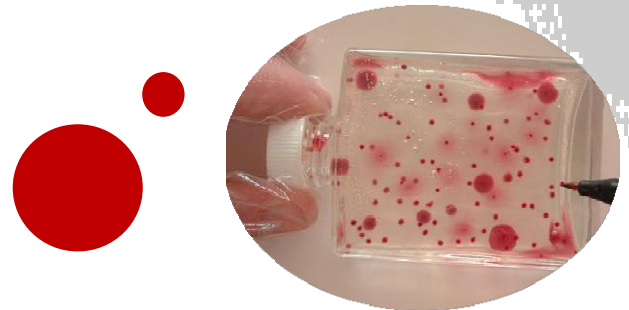
Who can use the test?

ANYONE - no special skills or equipment are needed, full instructions are provided and can be used on-site.

Is the test reliable?

MicrobMonitor² was developed originally for use in the aviation industry for testing jet fuel and is recommended by IATA and the aviation fuel Joint Inspection Group (JIG). Since its introduction, **MicrobMonitor²** has become established as a globally recognised standard for on-site monitoring of microbes in a broad range of fuels and oils, including:

- Gives results comparable with IP 385 and ASTM 6974-03 standard test methods
- Used in marine, offshore, power, transportation and other industrial sectors
- Recommended for military use and NATO codified
- Listed by Boeing, Airbus, BAE Systems and other OEMs in their Aircraft Maintenance Manuals
- Used regularly by major users and suppliers of fuels such as Lufthansa, KLM, BP and ExxonMobil



Why use MicrobMonitor²?

- Works with any petroleum product and associated water
- Quick and easy to use on-site or in the laboratory; more economic than standard laboratory tests
- Detects low level contamination for an early warning of potential problems
- Indicates the severity of any infection not just the presence of microbes as with "go, no-go" tests
- Can be used to monitor trends of contamination
- Determines when IATA contamination limits are exceeded and remedial measures are needed
- Contamination limits and detection levels can be user defined for specific facilities and operations
- Unaffected by biocides, DIEGME or other fuel additives; quickly assesses the effectiveness of biocide treatments
- Detects yeasts, bacteria and both spores and active growth of moulds (including *Hormoconis resinae*)

What about support?

The test is supplied and supported by ECHA Microbiology Ltd, a world leader in providing solutions for microbial contamination in fuels and oils. ECHA provides consultancy, training and laboratory services to support their tests and gives assistance with interpreting results and developing solutions.