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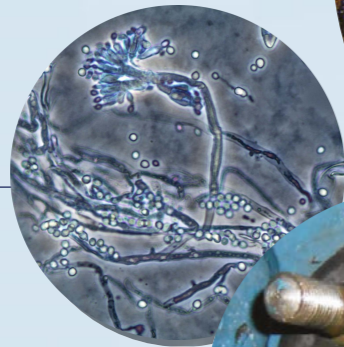
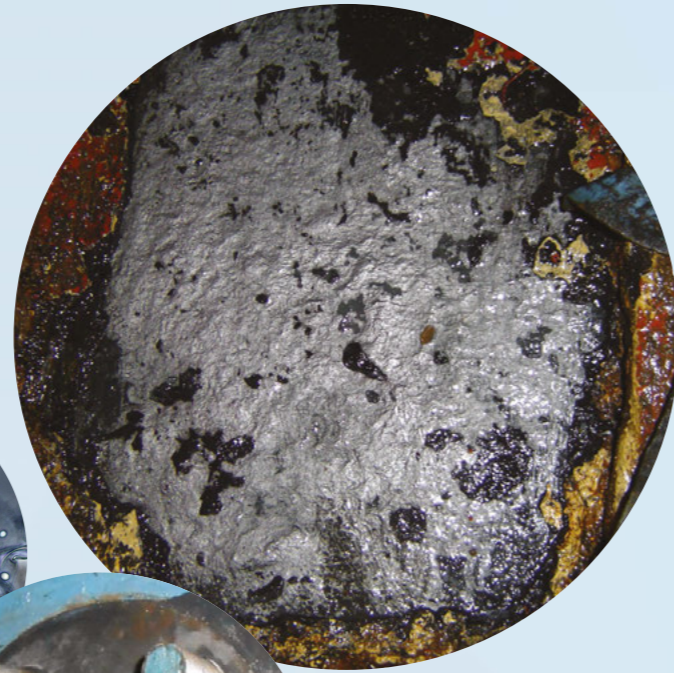
www.echamicrobiology.com

Solving your microbiological problems

We deliver technical products, consultancy, testing and training services to global industries in the air, sea and land transport sectors. Across all we do, we are trusted, innovative, accurate and dependable.



Results that count



Echa Microbiology has been helping industry to solve microbiological contamination and corrosion problems for more than 30 years.

By helping our customers understand and avoid the consequences and costs of microbiological contamination, we increase their safety, efficiency and predictability.

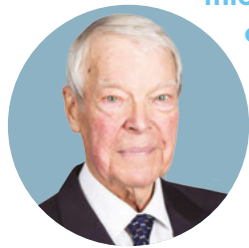
We offer consultancy, testing and training services. We also produce one of the world's most trusted and widely-used microbiological test kits for fuels and are trusted by many of the world's leading producers and users of fuel, and have deep expertise in the air, sea and land transportation sectors.

As an expert team of microbiologists, we spend all our time solving your problems or engaged in research and development. We are regarded as leading authorities on the causes and consequences of microbial contamination – as well as the solutions.

Results that count

TRUSTED +

With more than 200 years of combined experience, an expert team of in-house microbiologists, and a clear commitment to R&D, we have a deep knowledge base.



The company has its origins in academia (our founder, Ted Hill was originally a senior lecturer at the University of Wales).

Between them, our people have published some 250 academic papers. We are often called upon as experts by research bodies, trade associations and even legal inquiries and court cases.

All of this expertise feeds right back into our business – and is available, on tap, to all our customers.

INNOVATIVE +

ECHA Microbiology has a heritage of both pioneering research and practical experience. By drawing on these two attributes, we create innovative solutions for our customers.

Our tests enable anyone to quickly and easily conduct assessments which could previously only be conducted by trained microbiologists in a laboratory.

As fuel or oil chemistry evolves, we are forever adapting what we do – to stay ahead of the market and anticipate our customers' emerging needs.

ACCURATE +

Because we deliver such accurate results, our products and services are often regarded as the industry standard.

In the airline sector, for example, where safety and certainty are paramount, we are an IATA strategic partner, and a member of the IATA Technical Fuels Group. In the sea transportation sector, we are an IMarEST Marine Member.

We have a 30 year track record of successful case studies across several industries, and our accreditations support this. We are accredited suppliers to the defence, power generation and energy sectors under the Helios Joscar and Achilles UDVP and FPAL schemes.

DEPENDABLE

Our customers depend on us to help them reach the right conclusions.

They rely on our test results, they base significant business decisions on our advice, and they know that if we were ever to get it wrong, microbial contamination could have far-reaching costs and consequences.

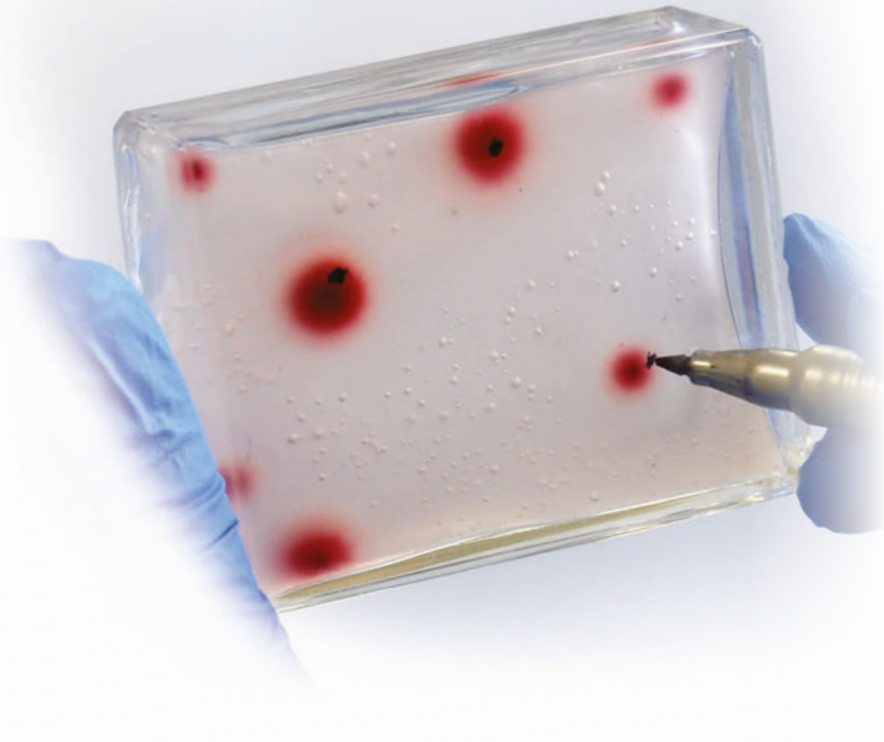
As a result, ECHA will only ever formulate advice based on informed decisions, and utilise its deep knowledge base and unique industry experience to do so.

MicrobMonitor® Test kits

Easy-to-use, and delivering results you can trust, they enable you to monitor the quality of your fuel, oil and industrial fluids. So you can detect the early stages of microbial activity, check on your on-going preventive and quality regimes, and avoid the costs of a major contamination.

MicrobMonitor2®

- **Reliable testing of fuels, oils and any associated water**
- **Detects active bacteria, yeasts and moulds and their dormant spores**
- **Allows testing in accordance with IP and ASTM standard test methods (IP 613 & ASTM D7978)**
- **Listed in industry guidelines by the Energy Institute and ASTM for testing fuels and oils**
- **Recommended by the International Air Transport Association (IATA) for testing aviation fuel**
- **Listed and approved by aircraft OEMs & major oil companies**
- **Simple to use and requires no special equipment**
- **Provides clear, easy to interpret results**
- **Suitable for field use and/or laboratory use**
- **Provides fully quantifiable results comparable with standard lab testing (IP 385)**



An invaluable test kit which enables you to easily and reliably determine the microbial quality of fuels, including aviation fuel, marine diesels, automotive diesels, gasoline and biofuels. The test is recommended for monitoring fuel storage and distribution systems and end user fuel and oil tanks for microbial growth.

- **TRUSTED** MicrobMonitor2 enables testing in accordance with globally recognised standards, listed by industry bodies (like IATA and the aviation Joint Inspection Group), OEMs (like Boeing and Airbus), and used by many of the world's biggest users and producers of fuel.
- **INNOVATIVE** Anyone can easily use the kit, by adding a small amount of fuel to the glass bottle of specially formulated testing gel.
- **ACCURATE** MicrobMonitor 2 has been validated by independent studies (conducted by the Energy Institute), and is recognised as both an International Petroleum (IP) and ASTM standard test method (IP 613 and ASTM D7978 respectively).
- **DEPENDABLE** The test detects very low levels of contamination by all three types of microbes (yeast, bacteria and mould) which cause microbial contamination of fuel and oil. This enables early detection, before the contamination becomes a problem. The test will also detect spores of microbes, which are often the only indication of contamination in a system.



MicrobMonitor® AQUA™

- **Suitable for testing of potable, hot and recreational waters for bacterial contamination**
- **One of the simplest water quality tests on the market**
- **Requires no special equipment to operate**
- **Provides clear and easy to interpret results**
- **Suitable for field use and/or laboratory use**
- **Provides reliable validation of water sanitisation systems**

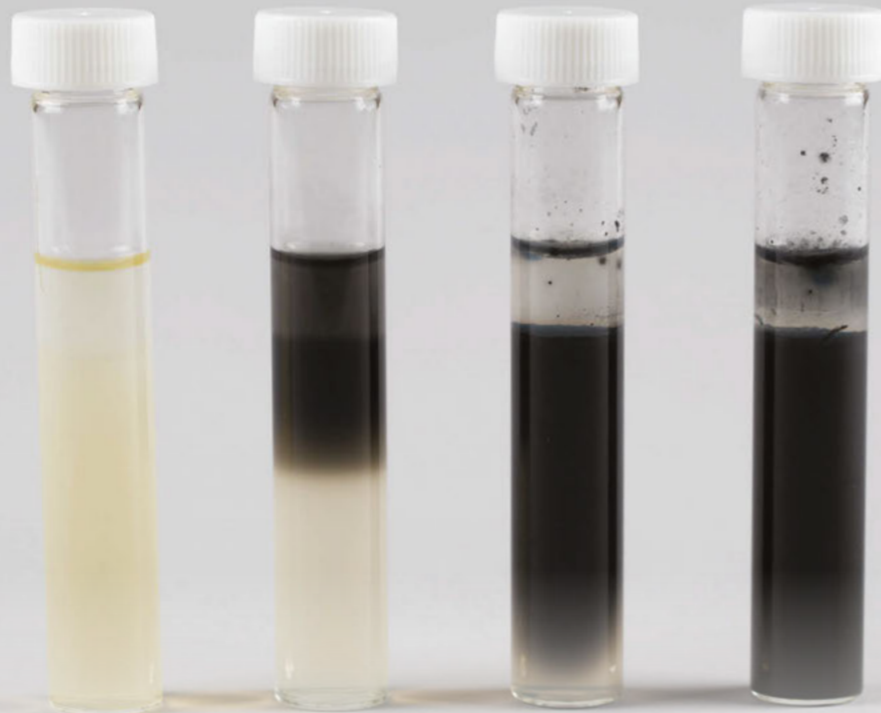
A handy test kit, which enables you to detect water-borne bacteria. The kit allows you to monitor contamination levels in any water, from any source, at any time, and in any place. Water samples suitable for testing include, potable water, hot water systems, swimming pools or spa baths, and water courses.

- **TRUSTED** To comply with regulatory and industry guidance, MicrobMonitor Aqua is an effective way to monitor the Heterotrophic Plate Count (HPC) (also known as the Total Viable Count (TVC) or Aerobic Colony Count (ACC)).
- **INNOVATIVE** Anyone can easily use the kit, by adding a small amount of water to the bottle of specially formulated testing gel. The detection level of the test can be adjusted as appropriate for the compliance limit required.
- **ACCURATE** The test uses the same principles as standard laboratory HPC methods, and can detect very low levels of contamination (right down to 1 CFU/ml).
- **DEPENDABLE** As well as being easy to use, the test is safe – as it is fully contained, and does not selectively culture hazardous microorganisms.

SigTests® for microbial spoilage and corrosion

Sig Sulphide™

- Reliable detection of Sulphate Reducing Bacteria (SRB) in water phase samples
- Suitable for testing bilge water, ballast water, metal working fluids, water in fuel tanks, closed water systems and more
- Reliable assessment of the risk of Microbially Influenced Corrosion (MIC)
- Suitable for field use and/or laboratory use
- Simple to use and requires no special equipment to use
- Provides results at least 22 days quicker than the equivalent lab test method
- Clear results provided by colour change indication



The presence of certain bacteria can quickly transform relatively innocuous sulphur compounds into highly toxic, corrosive and reactive sulphides. The Sig Sulphide test kit allows you to detect the presence of these SRB - and avoid the build-up of sulphides in industrial fluids and lubricants, as well as risk of MIC in bilge, ballast waters, fuel tanks and metal working fluid systems.

- **TRUSTED** The build-up of sulphides and the corrosion they cause can wreak havoc and Sig Sulphide is a fast, effective way of early detection - thereby avoiding the related costs and consequences.
- **ACCURATE** Delivering easy-to-read results, the test gives a clear indication of the severity of an SRB infection, and the associated corrosion risks. Sig Sulphide also shows good correlation with the NACE TMO 194 test standard.
- **INNOVATIVE** Anyone can easily use the kit, by adding a small amount of the fluid to the screw-capped tube of colour-changing testing gel.
- **DEPENDABLE** The test is much faster and many times less expensive than the equivalent laboratory tests for detecting SRBs.

Sig Nitrite™

- Reliable detection of Nitrite Reducing Bacteria (NRB) in samples
- Suitable for testing metal working fluids, cooling waters, sewage and more
- Suitable for field use and/or laboratory use
- Simple to use and requires no specialist equipment to use
- Clear results provided by colour change and gas bubble production



An easy, dependable way for you to detect the unwelcome presence of any NRB in cooling waters, metal working fluids, effluents and environmental samples - and therefore enables you to reduce the risk of corrosion.

- **TRUSTED** Nitrite is commonly used as a corrosion inhibitor, and the test is a sure way for you to detect the risk of its depletion by microbes.
- **ACCURATE** Delivering easy-to-read results, the test gives a clear indication of the severity of an infection.
- **INNOVATIVE** Anyone can easily use the kit, by adding a small amount of the fluid to the screw-capped tube of colour-changing testing gel.
- **DEPENDABLE** Sig Nitrite is a cost-effective, on-site testing method, which avoids the costs of laboratory tests.

Can't find what you're looking for?

Although this brochure displays some of our best-selling Test Kits, the ECHA Product Range is by no means limited to what you see here.

For more information on Rapid Test Kits, Biocides, Ancillaries and more, please visit our website www.echamicrobiology.com

Our Services

Laboratory services

All of the analytical services we offer are conducted in a fully equipped and professionally staffed laboratory.



We are unique in providing specialist microbiological testing of industrial materials. So, for example, you can turn to us for quality-controlled testing of fuels, lubricating, hydraulic and other oils, metal working fluids and much more. We can even provide analysis of paints and coatings, ballast and bilge waters, and potable or environmental waters too.

All such analysis is tailored to the needs of each customer - it may be part of a routine monitoring programme, investigation of a fuel contamination issue or as part of a corrosion risk assessment. Whatever the requirement, with clear and easy to understand reporting, testing may be conducted in accordance with standard methods or can be developed for your specific samples. We can also conduct more investigative analysis to assist your research and development plans.

We ensure that you benefit from testing with more than just a number. Unlike other laboratories, we can provide you with expert interpretation. So, for example, we can guide you through the significance of results, and subsequently recommend the appropriate next steps.

Site surveys

Your facility could benefit from our site surveys and related services.

We can develop a bespoke service to meet your particular needs - and help prevent problems with microbiological contamination bringing you improvements in safety, efficiency and predictability. We are trusted in providing on-site solutions to problems experienced in, amongst others, the fuelsupply, marine, offshore, aviation and power generation industries.

For example, if you manage a fuel terminal or handle large quantities of fuels or oils, we can conduct a full audit of your facilities and practices, recommend or implement a routine testing and monitoring service, help you to analyse results and identify trends, and advise on future controls.



Our Services

Consultancy services

Through our consultancy services, you get direct access to our expertise and enthusiasm.

We work with customers globally in response to microbiological spoilage and corrosion incidents. We conduct microbiological quality audits, identify root causes, make risk assessments of microbiological hazards and recommend decontamination strategies. We can also provide expert witness services.

Furthermore, we can work on a more proactive basis devising bespoke monitoring regimes. It is far easier to resolve contamination at an early stage than it is to kill or remove a heavy contamination where microbes have colonised a system.

Depending on your needs, assignments may be handled remotely or on-site. And, whatever the circumstances, you can trust us to provide an objective, expert, confidential service.

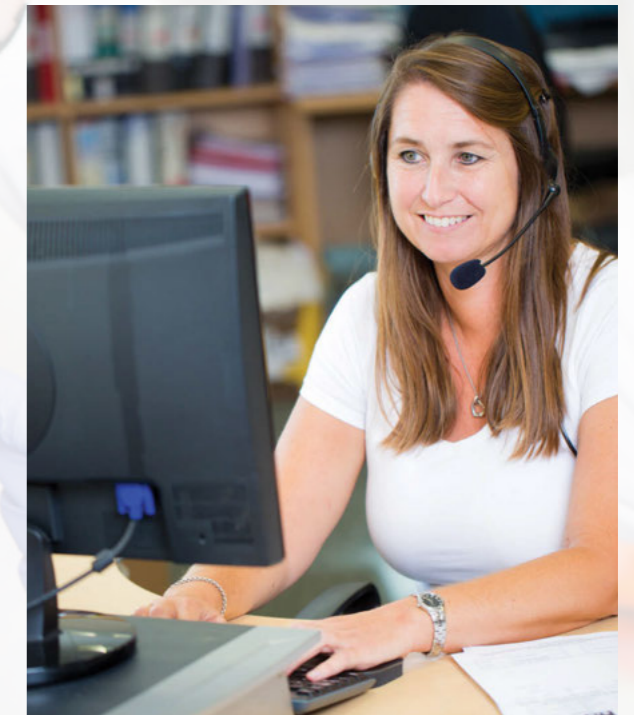


Dr Gareth Williams
Consultancy Services Manager



Training solutions

We can quickly bring your teams up to speed on the causes and consequences of microbial contamination - as well as the solutions.



Irrespective of the background of your people or your area of business, we can develop a tailor-made course. Some of our more popular programmes include the microbiology of aviation fuels; microbes in marine fuels, oils and bilges; and microbiology of metal working fluids, but we continually develop new courses to meet emerging customer needs.

Training can be delivered anywhere in the world. As we started in the world of academia, we have some inspiring tutors on-board - who have a passion for their subject, are able to provide clear insights, and are eager to share their expertise.

Global delivery and capability

From our headquarters in Wales in the United Kingdom, we work globally and have an enviable client list - including many of the world's largest fuel supply, aviation, marine and defence companies.

To give customers easier access to our test kits, we also work with a growing network of distributors, located in each of the major world regions. Europe, Americas, Australasia, Asia Pacific, and the Middle East & Africa are all regions that we supply.

Looking for a local supplier? You can find a full list of our Authorised Distributors on our website via <https://echamicrobiology.com/about-us/distributors>. If your region is not currently covered by our Distributor Network, simply contact us for more information.



Our markets

Our work is concentrated in three main industries:

- **AVIATION** - maintaining sky-high fuel safety levels
- **MARINE** - keeping ships on course
- **LAND** - committed to the long haul

Although those three industries account for much of our business, our work does extend beyond them. We work with any business in any market sector that faces the risk of microbial contamination issues - ranging from oils, fuels, industrial fluids, and even paints and coatings; right through to drinking water.

Also, we have formal, long-term partnerships with many leading trade associations, such as IATA and IMarEST, and our solutions are recommended by several leading OEMs, including Boeing and Airbus.

Aviation

- Airlines
- OEM's
- Fuel Suppliers
- Airports
- Service / Parts Suppliers
- General Aviation & FBOs
- MROs
- Service Laboratories

Marine

- Service Laboratories
- Large Vessel Operators
- Superyachts
- Offshore Operators
- Ports/Marinas
- Service/Parts Suppliers

Land

- Data Centre Operators
- Fuel Terminals
- Service Laboratories
- Power Generation
- Fuel Suppliers
- Service/Parts Suppliers
- Rail/Bus Operators
- Retail Forecourts
- FM/Utilities