



Laboratory Analysis



ECHA Microbiology has a fully equipped and professionally staffed microbiology laboratory providing fully quality controlled, validated analytical techniques for microbiological testing of a wide range of materials including:

- Aviation, marine and other fuels and associated water
- Lubricating, hydraulic and other oils
- Metal working fluids and industrial process fluids
- Ballast, bilge and cooling waters
- Potable & environmental waters
- Crude oils and production waters
- Industrial and consumer products
- Paints and coatings

See the *Microbial Problems* link at www.echamicrobiology.com for more information on the specific technical areas in which we have expertise.

Analysis can be conducted:

- As part of routine monitoring programmes
- To investigate operational incidents (e.g. corrosion or product contamination)
- As part of facility quality audits
- To investigate susceptibility of materials to microbial attack
- To evaluate effectiveness of biocides and preservatives
- specifications

- To confirm compliance of products and raw materials with microbiological
- As part of a health hazard risk assessment

Testing may be conducted in accordance with standard methods or alternatively analytical methods can be tailor made to specific samples. ECHA staff are happy to advise on the selection or development of test methods to best meet our customers' requirements.

Many of our clients require more than just a numerical test result; ECHA consultants can provide comprehensive comments on the significance of results and recommendations for further actions in our test reports.

Costs of analyses depend on the type of analysis, number and type of samples and reporting requirements.

Examples of Typical Analyses

Fuel:

- Visual examination (eg ASTM D4176)
- Microscope examination
- IP 385 for viable microbes
- IP472 for fungal fragments

IP385 test for viable microbes in fuels



Corrosion risk assessment (e.g. Ballast and bilge waters, fuel tank bottoms, production waters and cooling waters) :

- Visual examination
- Total Viable Count of aerobic bacteria, yeasts and moulds
- Sulphate Reducing Bacteria by NACE TMO 194 procedures
- Nitrite Reducing Bacteria
- pH
- REDOX
- Sulphide

Oils

- Visual examination
- Microscope examination of particulates
- Total Viable Count of aerobic bacteria, yeasts and moulds
- Sulphate Reducing Bacteria

Standard microbiological techniques can be backed up by rapid assessment to provide same day results where necessary.

Metal working fluids

- Visual examination
- Total Viable Count of aerobic bacteria, yeasts and moulds
- Sulphate Reducing Bacteria

- pH
- Biocide and preservative assays

Microscope examination



ECHA also carry out medium and long term research and investigations, for example:

- Biocide/preservative efficacy studies for fuels, oils, metal working fluids, paints, latexes and industrial and consumer products
- Assessments of the vulnerability of materials to microbial attack (eg protective and anti-fouling coatings, composite materials)
- Laboratory evaluations of the efficacy of anti-microbial equipment and prevention strategies

ECHA are also actively researching and enhancing their capability to use molecular microbiological techniques for investigation of microbial contamination in petroleum products and other samples

The scope of analytical methods used can be extended to include other non-microbiological tests such as water content, particulates and filterability, where necessary utilising our close co-operation with independent chemists and engineers.

ECHA's analyses are fully supported by our consultancy services

For more information on how to order this product, please contact a member of our Sales Team using any of the details below. You can also find more information on our website.

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