

Industrial Water & MIC Testing

Identify the microbes behind corrosion before they become a bigger problem

Targeted microbial testing. Actionable insights.

Protecting Water System and Infrastructure Integrity.

In industrial facilities, closed-loop HVAC systems and data center cooling infrastructure, microbial growth can contribute to biofouling, plugging and microbiologically influenced corrosion (MIC) potentially leading to costly equipment damage and premature pipe failure.

Eurofins Built Environment Testing offers a comprehensive microbial testing panel designed to identify key bacterial groups associated with MIC and biofilm formation. Adding quantitative testing for *Pseudomonas aeruginosa* provides an additional layer of insight into the microbial communities that can establish and accelerate corrosive conditions within water systems.

A Comprehensive Approach to MIC

Understanding which microorganisms are present can help facility and water management teams make more informed decisions about system maintenance, treatment and biocide strategies.

Our MIC testing panel includes:

Test Parameter	Methodology/Type	Operational Relevance
Iron Related Bacteria (IRB)	Presence/Absence	Oxidizes soluble iron to form dense insoluble precipitates; leads to tubercle formation, plugging, and localized corrosion.
Sulfate Reducing Bacteria (SRB)	Presence/Absence	Strict anaerobes that reduce sulfate to highly corrosive Hydrogen Sulfide, causing rapid, severe corrosion under biofilms.
Acid Producing Bacteria (APB)	Presence/Absence	Ferments organic compounds into organic acids, directly lowering localized pH and accelerating chemical dissolution of metals.
Slime Forming Bacteria	Presence/Absence	Produces thick extracellular polymers (slime) that foul heat exchangers and create the initial structural matrix for biofilms.
Denitrifying Bacteria	Presence/Absence	Reduces nitrates to nitrogen gas, compromising nitrate-based chemical corrosion inhibitors and destabilizing system chemistry.
<i>Pseudomonas aeruginosa</i>	Membrane Filtration — Quantification	Primary biofilm initiator; drives the anaerobic stratification required to shelter and accelerate underlying corrosive bacterial communities.

Why include *Pseudomonas aeruginosa*?

Pseudomonas aeruginosa is a strong biofilm-forming organism that can establish itself on surfaces within water systems.

As biofilms develop, they can create localized environments that support other microbial communities, including anaerobic organisms such as sulfate-reducing bacteria. Quantifying *P. aeruginosa* alongside traditional MIC indicators provides additional insight into the biological conditions within the system.

This broader microbial picture can help inform water treatment, maintenance and corrosion-control strategies.

Where MIC Testing Can Help

Data Center Cooling Infrastructure

Monitor microbial populations in critical cooling systems, including high-density liquid cooling infrastructure where maintaining system reliability is essential.

Closed-Loop HVAC Systems

Evaluate microbial populations in chilled- and hot-water systems where biofouling and MIC can contribute to premature piping and equipment failure.

Industrial Process Water

Characterize microbial populations to support water management programs and help inform treatment and biocide dosing strategies.

Why Choose Eurofins Built Environment Testing

Eurofins Built Environment Testing brings advanced analytical capabilities and expertise together to help clients better understand what's happening inside their water systems.

Our microbial testing capabilities can provide the data needed to investigate suspected MIC, monitor biological conditions and support proactive water management programs.

Whether you're managing a data center, commercial HVAC system or industrial process, Eurofins Built Environment Testing can help identify the microbial populations that may be contributing to corrosion and biofouling.



Sampling Made Simple

Water Samples

Collect 200–250 mL in a clean plastic bottle. Recommended applications include: cooling tower basins, closed-loop systems, chillers, boilers, heat exchangers

Swab Samples

For localized investigation, collect physical scrapings using a sterile swab kit from areas such as: pipe walls, corrosion coupons, filtration strainers, other areas showing evidence of fouling or corrosion.

Sample Handling & Shipping

Hold Time

There is no regulatory hold-time requirement. However, samples should ideally arrive at the laboratory within 24–48 hours to help preserve the microbial population present at collection.

Shipping

Ship samples immediately or within 24–48 hours. Use an insulated container with a standard ice pack to help maintain sample stability during transit.