

mi BIO-TRAP®

Catch Corrosion in the Act... **Trap It!**

ADVANCED DIAGNOSTIC SAMPLERS

What are Bio-Trap® Samplers?

Bio-Trap® samplers are passive sampling tools that collect microbes over time for the purpose of better understanding the microbial population present at a given location. The key to the Bio-Trap approach is a unique sampling matrix, Bio-Sep® beads, that contain an incredibly large surface area (~600 m²/g) for attachment of microorganisms. The beads are 2–3 mm in diameter and are an engineered composite of Nomex® and powdered activated carbon (PAC). When a Bio-Trap sampler is deployed, the beads absorb organic compounds and nutrients present in the sampling location allowing them to model the environmental conditions. Once recovered (30–60 days after deployment), DNA, RNA, or phospholipid fatty acids (PLFA) can be extracted from the beads for CENSUS, TRFLP, and/or PLFA to evaluate the microbial community.

Advantages of Bio-Trap Samplers

- Collects the attached (sessile) microbial populations.

Bio-Sep beads provide a large internal surface area for microbial attachment and biofilm formation.

- Can be amended with a variety of materials to mimic surface conditions.

The unique properties of the beads allow them to be fabricated to contain any specified material (stainless steel, copper, aluminum, etc.) to help evaluate the microbes responsible for, or contributing to, corrosion of a particular surface.

- Microbial populations are collected over a period of time.

Bio-Trap samplers utilize a passive sampling approach that allows the results to be integrated over time rather than from a single sampling event. Microbial populations are collected over time as biofilms form rather than a one time grab sample.



Standard Bio-Trap Sampler

Our standard Bio-Trap sampler approach is ideal for several situations including tank sampling, discrete interval sampling, and sampling below hydrocarbon layers. Bio-Trap samplers can be custom designed to be deployed in any type of environment.



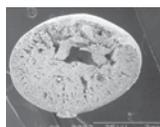
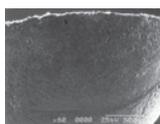
Flow through Bio-Trap Sampler

A flow through design that allows water to pass through a bed of Bio-Sep beads is ideal for a slip-stream approach to sampling process waters.



Bio-Trap Wafers and Bio-Studs

Bio-Trap wafers, with the same outstanding characteristics for attachment and growth of microorganisms as Bio-Sep beads, can be deployed alongside traditional corrosion coupons in pipe to sample sessile bacteria. Studs containing Bio-Sep beads, are threaded for easy installation. Both the beads and the wafers provide superior performance compared to metal surfaces in terms of collection of indigenous microbes.



Samplers can be analyzed using a wide variety of analyses including:

Molecular Biological Tools

- CENSUS (qPCR)
- PLFA
- DGGE
- TRFLP

And more!

10515 Research Drive
Knoxville, TN 37932
Phone: 865.573.8188

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www.microbe.com