

The TREND

Published by
International Chemtex Corporation
2008 Volume 8

Microbiological Testing Using the Hach BART™

Our Nashville Sales Meeting was a great success!

We hope everyone had a good time and left with some valuable information. Look for pictures from the meeting in the new Photo Gallery on the website.

Updated On-Line Catalog

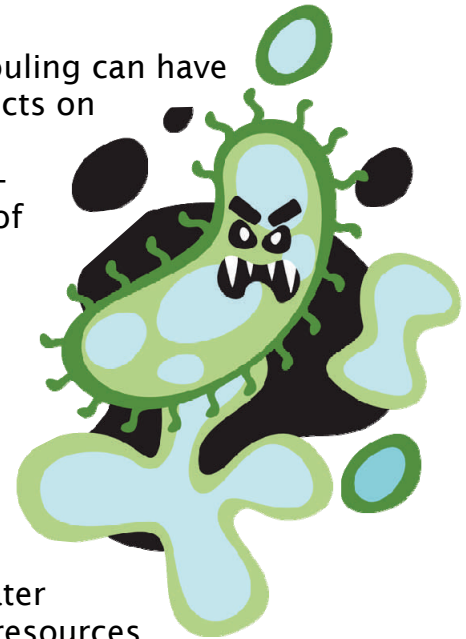
Check out the updated on-line version of the catalog which includes all the new BARTs and Ancillary Products such as Resin Cleaner, Bac-10, Molykote XP and RuStop. New products are added to the on-line catalog leading up to a new printed edition. The updated catalog is also available on disc. We have additional printed copies of the catalog to give to your customers and end-users. With the ancillary products included, this can act as a silent salesman.

Coming up next in *The Trend*

The next issue of The Trend features an informative article on Bromine and Chlorine testing as well as a biocide guide with treatment dosage recommendations. It will highlight the proper methods to use with the DR/890 and offer suggestions for color cubes or discs to provide for your customers.

Do you know what's lurking in your system water?

Microbiological fouling can have detrimental effects on industrial water systems. Corrosion, scale, and reduction of heat transfer efficiency are common by-products of microbiological presence, costing customers thousands in energy, cleanup and repair. Biofilms, slimes, and SRB colonies can be extremely hard to expel from a system and end up costing you, the water treater, valuable time and resources.



Now you can monitor those troubling and fouled systems with the Hach Biological Activity Reaction Test (BART) tubes. SRB, IRB, Slime-Forming, Denitrifying and Nitrifying Bacteria and Algae BART Tests are easy to use and interpret. These test tubes can be used in the field or requested to be completed in the lab.

Diagnosing the source of microbiological fouling is the first step to a clean and problem free system. Read on to learn more about common bacterial species and how Hach BARTs can help you . . .

CHEMTEX
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Iron Related Bacteria are aerobic microorganisms that oxidize soluble ferrous iron to insoluble ferric iron. This insoluble iron accumulates as red-brown slime which leads to fouling and plugging, therefore reducing heat transfer efficiency. Underneath the slime deposit is where the real damage is done, as the iron bacteria attacks the metal surface and causes under-deposit corrosion, such as pitting. Foul odor problems and water discoloration (red water) are common indicators of IRBs.

IRB-BART is a simple test for the presence of Iron Related Bacteria. Observe the testing tube daily for eight days and note any growth and/or color change. The number of days to reaction determines the potential IRB population in colony forming units/milliliter (cfu/ml).

Sulfate Reducing Bacteria are anaerobic microorganisms that reduce sulfate to hydrogen sulfide. The hydrogen sulfide dissociates into a weak acid that corrodes most common metals. Visual signs of SRBs are black insoluble ferrous sulfide deposits that release a sulfur-like “rotten egg” odor when saturated with hydrochloric acid. Like IRBs, sulfate reducing bacteria initiate pitting on metal surfaces, but the corrosion mechanism is much more severe and complex.



SRB-BART is a simple test for the presence of Sulfate Reducing Bacteria. Observe the testing tube daily for eight days and note any growth and/or color change. The number of days to reaction determines the potential SRB population in cfu/ml.

Slime-Forming Bacteria are the most common form of bacterial contamination. Present as several strains, these aerobic microorganisms are fast-growing and form slime on cooling tower surfaces. Debris and deposits adhere to the slime and cause plugging and heat transfer problems.

SLYM-BART is a simple test for the presence of Slime-Forming Bacteria. Observe the testing tube daily for eight days and note any growth and/or color change. The number of days to reaction determines the potential SLYM population in cfu/ml.

Nitrifying Bacteria are aerobic microorganisms that will oxidize nitrite to nitrate and will also oxidize ammonia to nitrate. As ammonia oxidizes to nitrate, nitric acid forms and drops the pH in the system very quickly. Oxidizing nitrite to nitrate compromises the oxygen-scavenging capabilities of your corrosion inhibitor.

N-BART is a simple test for the presence of Nitrifying Bacteria. Leave the test tube for five days and then replace the cap with an Rx cap. Observe the test tube after three hours for a Present/Absent result.

Denitrifying Bacteria are anaerobic microorganisms that will reduce nitrite to ammonia. Indicators of denitrifying bacteria are a high system pH and a strong ammonia odor. Ammonia concentrations in excess of 20 ppm can lead to copper piping corrosion.

DN-BART is a simple test for the presence of denitrifying Bacteria. Observe the testing tube daily for four days and note any foam presence. The number of days to reaction determines the potential DN population in cfu/ml.

Algae include a number of plant-like microorganisms which use light for growth. Tower decks, ponds and fountains are common areas for algae due to exposure to sunlight. Algae fouls distribution decks, nozzles and other areas of the tower, forming a slime that can also accelerate the growth of other microorganisms, such as bacteria and fungi.



ALGE-BART is a test that will determine the population of a number of algae species, including Grass-Green Algae, Blue-Green Algae, and Diatoms. The test can be used for Presence/Absence or for determination of dominant species. Observe the test tube three times per week for 24 days and compare color changes/growth with a description of each species. The BART tube does need to be under fluorescent lighting for the time of incubation in order to stimulate algae growth.

We are replacing the Biotrace BTM2 Bacteria/fungi Dipslide with the MCC847 Total Bacteria/Fungi Dipslide. In lab tests, this new dipslide out-performed the BTM2 and demonstrated repeatability rivaling the Biosan 200P. It also ships well and offers a price advantage. The introductory rate is \$24 per box of 10.

Call and order your MCC847 Dipslides today!

Test Kits

Bacteria

Hach BART

ALGE



The Biological Activity Reaction Test (BART) is used for population estimation, biocide control and aggressivity monitoring of industrial waters prone to biofouling. Algae (ALGE) BART detectors tests for the presence/absence of algae microorganisms and determine dominant species.

Part Number	Description
24327-09	Hach BART Algae Bacteria

DN

Denitrifying Bacteria (DN) BART detectors test for the presence/absence of bacteria that reduce nitrite to ammonia.



Part Number	Description
26193-09	Hach BART Denitrifying Bacteria

IRB



Iron Related Bacteria (IRB) BART detectors test for iron related bacterial populations of oxidizing, reducing, and accumulating strains.

Part Number	Description
24323-09	Hach BART Iron Related Bacteria

N

Nitrifying Bacteria (N) BART detectors test for the presence/absence of bacteria that oxidize nitrite and ammonia to nitrate.



Part Number	Description
26194-07	Hach BART Nitrifying Bacteria

SLYM



Slime-Forming Bacteria (SLYM) BART detectors determine the potential population of this commonly occurring bacteria.

Part Number	Description
24325-09	Hach BART Slym-Forming Bacteria

SRB

Sulfate-Reducing Bacteria (SRB) BART detectors determine the potential population of this microorganism which can cause serious microbiologically induced corrosion (MIC).



Part Number	Description
24324-09	Hach BART Sulfate-Reducing Bacteria