MODERNWATER | QuickChek™

Detection of SRB via a rapid enzyme immunoassay method

The QuickChek™ SRB Detection System is a rapid enzyme immunoassay method that detects sulfate reducing bacteria (SRB). The test employs purified antibodies to detect the enzyme adenosine-5'-phosphosulfonate (APS) reductase which is common to all strains of SRB.

The purified antibodies are attached to small particles that selectively capture the APS reductase enzyme. The particles and captured enzyme are then isolated on a porous membrane, which forms a reactive layer that turns blue in the presence of the APS reductase enzyme.

QuickChek™ SRB offers several advantages over cell culture techniques for SRB detection including immediate and accurate results. The kit allows testing of solid and semi-solid samples and detects all SRB, including SRB that is unable to grow in some standard media. The test results are not compromised by chemical or salinity interferences that are often found in field samples.

The QuickChek™ SRB kit is completely self-contained and disposable. Each kit includes all necessary materials to detect and enumerate sulfate reducing bacteria. There is no need for pretreatment or dilution of samples and there are not special hazardous waste disposal limitations.

- Semi-quantitative results
- Detects all viable and non-viable SRB samples
- Results available in approximately 8-10 minutes
- Two or three samples simultaneously
- Detection limit of 10^3 cells/ml
- Detection limit for "clean" waters down to 10^1 cells/ml

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SPECIFICATIONS

Size	
Ten Pak	30.5cm x 14.9cm x 10.2cm (12" x 5.875" x 4")
EconoPak	52.7cm x 38.1cm x 15.2cm (20.75" x 15" x 6")
Weight	
Ten Pak	0.6kg (1.3lbs)
EconoPak	4.5kg (10lbs)
Storage Temperature	2°C to 8°C
Room Temperature Requirement	18°C to 27°C

Applications

- Corrosion coupons
- Cutting fluids
- Drilling fluids (Muds)
- Solids: biofilms, sludge, rust, mud
- Water associated with oil

Process explained

The QuickChek™ SRB kit applies the principles of enzyme linked immunosorbent assay (ELISA) to the determination of sulfate reducing bacteria. A lyophilised lysing reagent is reactivated, the sample is filtered through filtration medium, washed and filtered again. The SRB are trapped in a filter cake which is then transferred to the lysing reagent and this will chemically dissolve the SRB cell walls, freeing the APS reductase enzyme. A final filter step is performed, releasing the liquid into the immunoreagent vial containing the lyophilised antibody. The liquid is mixed in the immunoreagent vial and during incubation, the antibody coated particles bind with the APS reductase enzyme. The contents of the vial are then poured onto a test membrane device where the particles are captured. A wash solution is poured over and soaks through the membrane. Once the wash solution has absorbed through the membrans, a chromagen liquid is poured over and soaks through the membrane. After a color incubation period, the membrane color is compared to a color indicator card and SRB concentration is determined.

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