

MODERNWATER

QuickChek™

## Detection of SRB via rapid enzyme immunoassay methods

The QuickChek™ SRB Detection Systems are rapid enzyme immunoassay methods that detect sulfate reducing bacteria (SRB). The tests employ antibodies to detect the enzyme adenosine-5'-phosphosulfonate (APS) reductase which is common to all strains of SRB.

QuickChek™ SRB kits offer 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. Test results are not compromised by chemical or salinity interferences which are often found in field samples.

The QuickChek™ SRB kit is completely self-contained and disposable. Each kit includes all the necessary materials to detect and enumerate sulfate reducing bacteria. There is no need for pretreatment or dilution of samples and there are no special hazardous waste disposal limitations.

- Semi-quantitative results
- Detects viable and non-viable SRB in samples
- Results available in 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 EconoPak	30.5cm x 14.9cm x 10.2cm (12" x 5.875" x 4") 52.7cm x 38.1cm x 15.2cm (20.75" x 15" x 6")
Weight Ten Pak EconoPak	0.6kg (1.3lbs) 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

## Modern Water is proud to offer two versions of the SRB kit:

### Test Kit

Antibodies are attached to latex 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 APS reductase.

### Process explained

The QuickChek™ SRB kit applies the principles of enzyme linked immunosorbent assay (ELISA) to the determination of sulfate reducing bacteria concentration. The sample flows through a filtration medium, is washed and filtered again. The SRB are trapped in the filtration medium cake which is then transferred to a lysing reagent which will chemically dissolve the SRB cell walls, freeing the APS reductase enzyme. Following stages of incubation, separation and filtration a chromagen liquid is added causing a colour change. The membrane colour is compared to a colour indicator card to determine SRB concentration.

### Strip Test

Antibodies used in a lateral flow device (LFD) selectively capture the APS reductase enzyme. The particles and captured enzyme are then isolated on a nitrocellulose membrane, which forms a line that turns red in the presence of APS reductase.

### Process explained

The QuickChek™ SRB kit applies the principles of enzyme linked immunosorbent assay (ELISA) to the determination of sulfate reducing bacteria concentration. To capture whole SRB the sample is moved through a filter then washed. The trapped SRB are exposed to lysing reagent which chemically dissolves the SRB cell walls, freeing the APS reductase enzyme. The flow through liquid is placed into the sample well of a QuickChek™ SRB cassette and allowed to flow for five minutes. During incubation, antibody coated particles bind with the APS reductase enzyme and antibody on the membrane of the LFD. After the incubation period, the SRB concentration is determined either with the Quick Chek Reader, or by comparing Test line color to a color indicator card.



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tel: (UK) +44 (0)1483 696 030  
tel: (US) +1 302 669 6900  
[www.modernwater.com](http://www.modernwater.com)  
[info@modernwater.co.uk](mailto:info@modernwater.co.uk)