

AMT RAPID BAC SRB

AMT-IB-002/AMT-IB-002-M

Total Aerobic Bacteria Test for Industrial Water,
Process Water and Wastewater.



BRINGING THE LABORATORY TO THE FIELD

AMT Industrial offers tests that are user-friendly, reliable and have an extended shelf life. Our tests also present a unique and cost-effective way to perform microbiological analyses.

Our tests allow you to identify microorganisms that traditionally could only be cultured or identified using expensive equipment in a laboratory setting. At a fraction of the cost and time, AMT brings the laboratory to where it's needed most – the field.

Read all directions entirely before running this test.

SUMMARY AND EXPLANATION

Sulfate-Reducing Bacteria (SRB) can be responsible for decreased heat-transfer performance in heat exchangers, induction of corrosion of structural material in cooling systems, increased pumping costs, increased loading, induction of corrosion fatigue or stress corrosion and blockage of filter systems. Detection and control of this type of bacteria is imperative to proper cooling system operation.

One of the classic concepts for maintaining an industrial system free of the deleterious effects of SRB-caused Microbial Induced Corrosion (MIC) is to keep the system clean and free of these microorganisms. One of the most important steps is the use of the proper detection and monitoring methods for microorganisms that cause corrosion.

AMT RAPID BAC SRB is a multi-purpose media based on a modified Postgate B media for the detection and cultivation for SRB. The test is self-contained and no special laboratory equipment is necessary for conducting this test.

PRESENCE/ABSENCE METHOD (Presumptive Identification in Water Samples)

- ❖ Gather the sample in the supplied sample cup*. Fill to the 25 ml line or in a single use sterile sample container.
*Triple rinse before use, if not sterile.
- ❖ Add 5 drops of the reaction reagent for every 25 ml of sample. Swirl to mix.
- ❖ Remove ampoule from box and carefully remove and set aside provided safety cap.
- ❖ Inspect the ampoule tip for breakage. If broken, discard properly and replace with a new ampoule.
- ❖ Label the ampoule with a water proof marker with the sample identifier and time.
- ❖ Place the tip of the ampoule against the sample container wall. The ampoule should be at a 45° angle.
- ❖ Gently push the tip against the sample container wall with a slight twisting motion. The ampoule tip will break and the sample will automatically be drawn into the ampoule.
Note: Keep the ampoule tip in the sample until it has finished filling.
- ❖ Remove the ampoule from the sample and carefully replace the safety cap.
- ❖ Incubate the ampoule at 75°F-85°F (23.9°C-29.4°C).
- ❖ Check after 24 hours for a black color. A black color is indicative of the presence of Sulfate-Reducing Bacteria.
Note: Results may be checked every 24 hours, up to 30 days.

MULTI-TUBE METHOD (Low CFU/ml)

- ❖ Gather the sample in the supplied sample cup*. Fill to the 25 ml line or in a single use sterile sample container.
*Triple rinse before use if not sterile.
- ❖ Add 5 drops of the reaction reagent for every 25 ml of sample. Swirl to mix.
- ❖ Gather and label five ampoules. Remove the ampoules from box and carefully remove and save the provided safety cap. Inspect the ampoule tips for breakage. If broken discard properly and get a new ampoule.
- ❖ Label each ampoule with a waterproof marker with the sample identifier and time.
- ❖ Place the tip of the ampoule against the sample container wall. The ampoule should be at a 45° angle.
- ❖ Gently push the tip against the sample container wall with a slight twisting motion. The ampoule tip will break and the sample will automatically be drawn into the ampoule.
Note: Keep the ampoule tip in the sample until it has finished filling.
- ❖ Remove the ampoule from the sample and carefully replace the safety cap.
- ❖ **Repeat procedure for 4 ampoules. (5 ampoules total)**
- ❖ Incubate the ampoule at 75°F-85°F (23.9°C-29.4°C).
- ❖ Check after 24 hours for a black color. A black color is indicative of the presence of Sulfate-Reducing Bacteria.
- ❖ At the end of incubation period compare the number of positive tubes to the attached chart to get the CFU/ml reading.

RESULTS

Ampoules positive for Sulfate-Reducing Bacteria will produce a black color and/or a black precipitate. SRB positive ampoules may also produce a Hydrogen Sulfide odor (rotten egg). Higher levels of SRB will cause a more rapid reaction. 1×10^6 CFU/ml of SRB will turn the test black in 24 hours while 100 CFU/ml will typically turn the test black in 4-5 days.

Note: Additional charts with different combinations may be obtained from AMT. (See Contact).

LIMITATIONS OF PROCEDURE

RAPID BAC SRB is used for cultivating anaerobic Sulfate-Reducing Bacteria in Industrial Water, Process Water and Wastewater. The test contains Methylene Blue (oxygen indicator) that will turn blue in the presence of oxygen and clear in the absence of oxygen. Initially the test will start blue but should turn clear within 3045 minutes of incubation.

Note: Tubes that do not go from blue to clear will not give proper results and should be discarded.

STORAGE

Upon receipt, store tubes in the dark at 2-25°C. Avoid freezing and overheating. Ampoulated media stored as indicated may be inoculated up to the expiration date. Minimize exposure to light.

Note: Do not use ampoules if they show evidence of microbial contamination, discoloration, or other signs of deterioration.

EXPIRATION DATE

The product is stable if stored properly for 1 year from date of manufacture. The expiration date applies to media stored at or below 30°C.

WARNING AND PRECAUTIONS

- ❖ For laboratory and field use by trained professionals.
- ❖ The AMT RAPID TM is a glass ampoule with a sharp tip when activated. **USE EXTREME CAUTION** when breaking the tip. Always carefully apply the provided safety cap.
- ❖ Dispose of broken unused ampoules in a designated broken glass receptacle.
- ❖ Dispose of used ampoules in an **appropriate container or sealed puncture resistant receptacle**.
- ❖ Follow biohazard processing protocol according to local, state and Federal regulations.
- ❖ Keep away from children.
- ❖ Not for use as a diagnostic tool on humans or animals.
- ❖ Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures before, during and after use.
- ❖ Prepared ampoules, specimen containers and other contaminated materials must be sterilized by autoclaving or adding to a bleach solution before discarding.
- ❖ Keep out of direct sunlight.

FORMULA

AMT-IB-002 SRB Test

AMT-IB-002-M (approximately 50% less per ampoule)

Approximate Formula per Ampoule:

KH₂PO₄.....0.0033g
NH₄Cl.....0.0066 g
NA₂SO₄.....0.0066 g
CaCl₂.....0.0066 g
MgSO₄.....0.0132 g
Yeast Extract.....0.0066 g
Sodium Lactate.....0.0033 g
Ascorbic Acid.....0.00066 g
Thioglycollic Acid.....0.00066 g
FeSO₄.....0.0033 g
NaCl.....0.172 g Sea
Salt.....0.172 g
Methylene Blue.....0.000132 g

FIVE (5) TUBE MOST PROBABLE NUMBER (MPN) CHART

Tube #	Result	CFU/ml	CFU/100ml
1	-	<0.034	<3.4
2	-		
3	-		
4	-		
5	-		
Tube #	Result	CFU/ml	CFU/100ml
1	+	0.034	3.4
2	-		
3	-		
4	-		
5	-		
Tube #	Result	CFU/ml	CFU/100ml
1	+	0.077	7.7
2	+		
3	-		
4	-		
5	-		
Tube #	Result	CFU/ml	CFU/100ml
1	+	0.14	14
2	+		
3	+		
4	-		
5	-		
Tube #	Result	CFU/ml	CFU/100ml
1	+	0.24	24
2	+		
3	+		
4	+		
5	-		
Tube #	Result	CFU/ml	CFU/100ml
1	+	>0.24	>24
2	+		
3	+		
4	+		
5	+		

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