

## TM 595 - SULPHATE API BROTH W/O NaCl

### INTENDED USE

For detection, differentiation and estimation of sulphate reducing bacteria.

### PRODUCT SUMMARY AND EXPLANATION

Sulphate API Broth w/o NaCl is prepared according to the formulation described in the American Petroleum Institute Recommended Practice for detection of sulphate reducing bacteria. Sulphate-reducing bacteria cause corrosion of oil well systems resulting in perforations in the pipes. Sulphate-reducing bacteria convert sulphate to sulphide which with the ferrous ion gives black colour. The insoluble sulphide results in plugging.

### COMPOSITION

Ingredients	Gms / Ltr
Yeast extract	1.000
Ascorbic acid	0.100
Magnesium sulphate	0.200
Dipotassium phosphate	0.010
Ferrous ammonium sulphate	0.100

### PRINCIPLE

Yeast extract in the medium provides nitrogen and other nutrients necessary to support bacterial growth. Ascorbic acid is the carbohydrate source. Dipotassium Phosphate buffers the medium. Sodium chloride, magnesium sulphate and ferrous ammonium sulphate provide essential ions. *Desulfovibrio* oxidizes reduced substrates i.e. sodium lactate, further with stepwise reduction of sulfate to sulfide. The detection and estimation of these bacteria is done on the basis of their ability to grow and produce sulphide in this medium. For the estimation, appropriate dilutions of water samples are inoculated.

### INSTRUCTION FOR USE

- Dissolve 1.41 grams in 1000 ml distilled water. Add 4 ml of sodium lactate.
- Heat if necessary to dissolve the medium completely.
- Dispense, preferably in screw-capped tubes in 9 ml amounts.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 10 minutes, close the caps immediately while the medium is still hot.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: White to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light yellow coloured clear solution in tubes.
pH (at 25°C)	: 7.4±0.2

### INTERPRETATION

Cultural characteristics observed after an incubation, under anaerobic condition.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
<i>Desulfovibrio desulfuricans</i>	13541	50-100	Good-luxuriant	30°C	Upto 1 week

**PACKAGING:**

In pack size of 100 gm and 500 gm bottles.

**STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

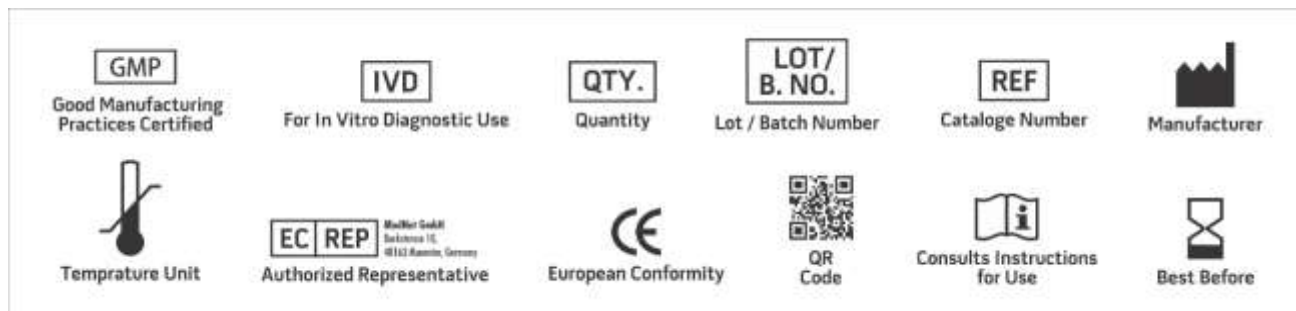
**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

**DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

**REFERENCES**

- American Petroleum Institute Recommended Practice 28, 1959, First ed.



**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**  
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