



## PRODUCT SPECIFICATION SHEET

### Sulphate API Broth w/o Sodium Lactate (DM984)

#### Intended Use

Sulphate API Broth w/o Sodium Lactate (DM984) is recommended for detection of sulphate reducing bacteria.

#### Product Summary and Explanation

Sulfate-reducing bacteria are those bacteria and archaea that can obtain energy by oxidizing organic compounds or molecular hydrogen while reducing sulfate to sulfide which with the ferrous ion gives black colour. The insoluble sulphide results in plugging. These organisms in a sense "breathe" sulfate rather than oxygen in a form of anaerobic respiration. Sulphate-reducing bacteria cause corrosion of oil well systems resulting in perforations in the pipes. Sulphate API Broth w/o Sodium Lactate is prepared according to the formulation described in the "American Petroleum Institute Recommended Practice"<sup>(1)</sup> for detection of sulphate reducing bacteria.

#### Principles of the Procedure

Sulphate API Broth w/o Sodium Lactate contains yeast extract which provides nitrogen and other nutrients necessary to support bacterial growth and metabolism. Ascorbic acid is a source of carbohydrate. 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. These bacteria are detected and estimated on the basis of their ability to grow and produce sulphide in this medium. Appropriate dilutions of water samples are inoculated for the estimation.

#### Formula / Liter

Ingredients	Gms / Liter
Yeast extract	1.00
Magnesium sulphate	0.20
Dipotassium phosphate	0.01
Ferrous ammonium sulphate	0.10
Sodium chloride	10.00
Final pH: 7.5 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

#### Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

#### Directions

1. Suspend 11.41 grams of the medium in one litre of distilled water. Add 4 ml of sodium lactate.
2. Heat if necessary to dissolve the medium completely.
3. Dispense, preferably in screw-capped tubes in 9 ml amounts.
4. Autoclave at 121°C, 15 psi pressure, for 10 minutes / validated cycle.
5. Close the caps immediately while the medium is still hot.

#### Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Light yellow coloured clear solution in tubes
Reaction of 1.1% w/v solution	pH : 7.5 ± 0.2 at 25°C





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(containing 0.4% v/v sodium lactate)	
Gel Strength	Not Applicable

**Expected Cultural Response:** Cultural characteristics observed after an incubation at 30°C for upto 1 week, under anaerobic condition.

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	<i>Desulfovibrio desulfuricans ATCC 13541</i>	50-100	good-luxuriant

The organisms listed are the minimum that should be used for quality control testing.

### Test Procedure

Refer appropriate references for standard test procedures.

### Results

Refer appropriate references and test procedures for interpretation of results.

### Storage

Store the sealed bottle containing the dehydrated medium at 2 - 8°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

### Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

### Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

### Packaging

Product Name : Sulphate API Broth w/o Sodium Lactate

Product Code : DM984

Available Pack sizes : 500gm

### References

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

### Further Information

For further information please contact your local MICROMASTER Representative.





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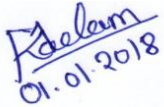
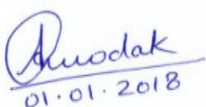

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