Sulphate Reducing Medium (Triple Pack) M803

Intended use

Sulphate Reducing Medium is recommended for enumeration of sulphate reducing bacteria in water samples.

Composition**

Ingredients	Gms / Litre
Part A	-
Dipotassium phosphate	0.500
Peptone	2.000
Meat extract B#	1.000
Sodium sulphate	1.500
Magnesium sulphate, heptahydrate	2.000
Calcium chloride	0.100
Part B	-
Ferric ammonium sulphate, hexahydrate	0.392
Sodium ascorbate	0.100
Part C	-
Sodium lactate	3.500
Final pH (at 25°C)	7.5±0.3

**Formula adjusted, standardized to suit performance parameters

Equivalent to Beef extract

Directions

Suspend 6.08 grams(equivalent weight of dehydrated media per litre) of Part A in 900 ml distilled water. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. On the day of use prepare solution of Part B by suspending 0.384 grams(equivalent weight of dehydrated media per litre) of Part B in 100 ml distilled water. Sterilize by filtration through a 0.45 µm membrane filter and aseptically add this 100 ml solution to 900 ml Part A medium. Then separately sterilize the 3.50 grams Part C by autoclaving at 15 lbs pressure (121°C) for 15 minutes and aseptically add to the mixture of Part A and B. Mix well and aseptically transfer the complete medium to sterile screw capped tubes filling them completely.

Principle And Interpretation

Sulphate Reducing Medium is formulated in accordance with APHA (1) for enumeration of sulphate reducing bacteria. Sulphate reducing bacteria such as *Desulfovibrio* converts sulphate to sulphide which reacts with ferrous ions to give a black colour within 4 to 21 days at 20-30°C. *Thiobacillus* also produces sulphuric acid and hence is found in environment containing H2S (2).

Peptone and meat extract B in the medium provide nitrogen and other nutrients necessary to support bacterial growth. Potassium phosphates buffer the medium. Sodium chloride and the sulphate salts provide essential ions. The tubes are filled completely to create anaerobic conditions. When sample volume is greater than 10 ml, sample is passed through a 0.45 um membrane filter and the filter is transferred to screw-capped test tubes containing medium.

Type of specimen

Water samples

Specimen Collection and Handling

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(1) After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic Use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidleines should be followed while handling clincal specimens. Saftey guidelines may be referred in individual safety data sheets

Limitations :

Longer incubation period may be required for isolates.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance of Part A

Part A : Cream to yellow homogeneous free flowing powder.
Part B : White to cream homogeneous free flowing powder.
Part C : Colourless solution

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent solution in tubes

Reaction

Reaction of 0.62% w/v Part A + 0.0384% w/v Part B + 0.35% v/v Part C aqueous solution at 25°C. pH : 7.5±0.3

pH

7.20-7.80

Cultural Response

Cultural characteristics observed after an incubation at 20-30°C for upto 4-21 days .

Cultural Response

Organism	**Growth**
Cultural Response	
Desulfovibrio desulfuricans ATCC 13541	luxuriant
Thiobacillus thiooxidans ATCC 19377	good-luxuriant

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle inorder to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Use before expiry date on the label.
Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

1.Eaton A. D., Clesceri L. S. and Greenberg A. W., (Eds.), 2012, Standard Methods for the Examination of Water and Wastewater, 23rd Ed., APHA, Washington, D.C.
2. Starkey R.L. 1937, J. Bacteriol., 33:545

3.Isenberg, H.D. Clinical Microbiology Procedures Handb0ook. 2nd Edition.

4. Jorgensen,J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

Disclaimer :

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