

TM 433 - SULPHITE AGAR

INTENDED USE

For detection of thermophilic sulphide producing anaerobes.

PRODUCT SUMMARY AND EXPLANATION

Oxidation of sulphur or sulphides for energy production is restricted to the bacterial genus *Thiobacillus*, *Thiomicrospira*, and *Sulfolobus*. These bacteria all produce sulphuric acid as a metabolic product. The direct reduction of sulphate ions to hydrogen sulphide is effected in nature by specialized, strictly anaerobic bacteria of the genera *Desulfovibrio* and *Desulfotomaculus*. These sulphate-reducing bacteria are heterotrophic organisms that utilize sulphate, thiosulphate, $S_2O_3^{2-}$, sulphite, SO_3^{2-} , or other reducible sulphur-containing ions as terminal electron acceptors in their respiratory metabolism. In the process these sulphur-containing ions are reduced to hydrogen sulphide. Sulphite Agar is prepared according to the formula described by Clark and Tanner and is recommended by APHA for detecting the thermophilic hydrogen sulphide producing anaerobic microorganisms.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	10.000
Sodium sulphite	1.000
Agar	20.000

PRINCIPLE

Casein enzymic hydrolysate in the medium provides nitrogenous compounds required for the growth of organisms. Sodium sulphite is reduced and thus contribute in H_2S production by the thermophilic anaerobic bacteria.

INSTRUCTION FOR USE

- Dissolve 31 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense in screw-capped tubes containing a clean iron nail in 15 ml amounts and cap the tubes. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- As an alternate to iron nail, 10 ml of 5% ferric citrate solution may be used per liter of the medium.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light amber coloured clear to very slightly opalescent gel forms in tubes.
pH (at 25°C)	: 7.6±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Sulfite reduction	Incubation Temperature	Incubation Period
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<i>Cl.thermosaccharolyticum</i>	7956	50-100	Good	Positive reaction, blackening of medium	55°C	18-48 Hours
<i>Desulfotomaculum nigrificans</i>	19858	50-100	Good	Positive reaction, blackening of medium	55°C	18-48 Hours
<i>Bacillus stearothermophilus</i>	10149	50-100	Good	Negative reaction, no blackening of medium	55°C	18-48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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.







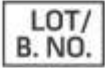


Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

- Clark F. M. and Tanner F. W., 1937, Food Research, 2:27.
- Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.
- Horwitz W., (Ed.), 2000, Official Methods of Analysis of AOAC International, 17th Ed., AOAC International, Gaithersburg, Md.

 Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

***For Lab Use Only**
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