TM 793 - MOTILITY SULPHIDE MEDIUM

INTENDED USE
For detection of motility and hydrogen sulphide production by pure cultures.

PRODUCT SUMMARY AND EXPLANATION
Motility Sulphide Medium was originally formulated by Edwards and Bruner and further modified by Hajna for the determination of motility and hydrogen sulphide production. The medium is also used for indirect evidence of motility by non- fermenting gram-negative bacilli.

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	10.000
Beef extract	3.000
L-Cystine	0.200
Ferric ammonium citrate	0.200
Sodium citrate	2.000
Sodium chloride	5.000
Gelatin	80.000
Agar	4.000

PRINCIPLE
Proteose peptone and beef extract provide nitrogen compounds, carbon, sulphur and trace elements essential for bacterial growth. L-cystine and ferric ammonium citrate are the H_2S indicators. Ferric ammonium citrate also provides extra nutrients for citrate-utilizing bacteria. Agar and gelatin preserve an intact stab line. Motile organisms grow away from stab line showing diffused growth while non-motile organisms grow along the stab line. Hydrogen sulphide production is indicated by the blackening of the medium. Due to the free L-cystine, generally negative organisms may give a positive reaction. After observing motility and H2S production, same medium can be utilized to detect urea hydrolysis. The culture in the medium is overlaid with 1 ml of Urea Broth and incubated at 35°C for upto 6 hours. A urease positive reaction is observed as a reddish-purple colour formation in the Urea Broth.

INSTRUCTION FOR USE
- Dissolve 10.44 grams in 100 ml warm distilled water.
- Heat to boiling with constant agitation to dissolve the medium completely.
- Dispense in tubes in 4 ml amounts and sterilize by autoclaving at 115°C (10 psi pressure) for 15 minutes.
- Allow the tubed medium to cool in an upright position.

QUALITY CONTROL SPECIFICATIONS
Appearance of Powder : Cream to yellow homogeneous coarse powder.
Appearance of prepared medium : Yellow clear to slightly opalescent gel forms in tubes as butts.
pH (at 25°C) : 7.3±0.2

INTERPRETATION
Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Motility	H2S	Urease	Incubation Temperature	Incubation Period
Escherichia coli	8739	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	Negative, no blackening of medium	Negative reaction, no change	35-37°C	18-24 Hours
Enterobacter aerogenes	13048	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	Negative, no blackening of medium	Negative reaction, no change	35-37°C	18-24 Hours
Proteus mirabilis	25933	50-100	Luxuriant	temperature dependent. It is more pronounced at 20°C and almost absent at 35°C	Positive, blackening of medium	Positive reaction, cerise colour	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Luxuriant	Positive, growth away from stabline causing medium turbidity	Positive, blackening of medium	Negative reaction, no change	35-37°C	18-24 Hours
Shigella sonnei	25931	50-100	Luxuriant	negative, growth along the stabline, surrounding medium remains clear	Negative, no blackening of medium	Negative reaction, no change	35-37°C	18-24 Hours
Staphylococcus aureus	25923	50-100	Luxuriant	negative, growth along the stabline, surrounding medium remains clear	Negative, no blackening of medium	Negative reaction, no change	35-37°C	18-24 Hours

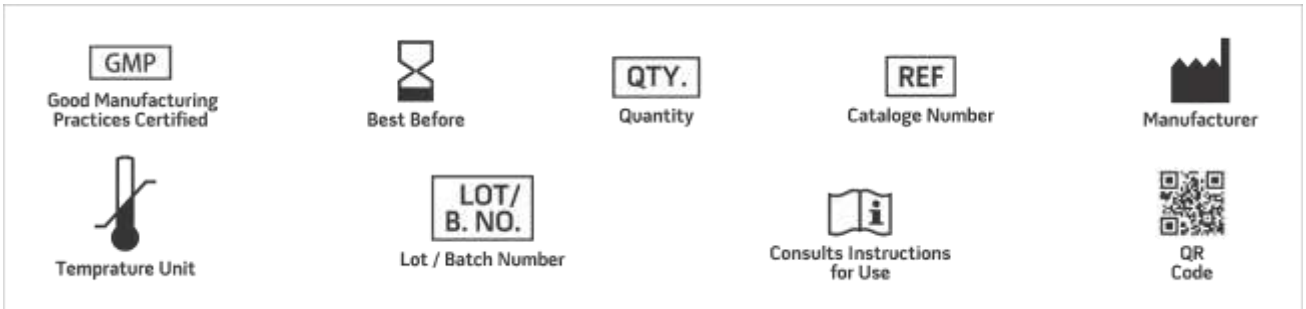
PACKAGING:
In pack size of 500 gm bottles.

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
1. Edwards P. R. and Brunner D. W., 1942, Circulation of the Kentucky Agricultural Experimental Station, No. 54.
2. Hajna A. A., 1950, Public Health Lab., 8:36.

3. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.



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

***For Lab Use Only**

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