

CM 21169 - MARINE OXIDATION FERMENTATION MEDIUM (MOF MEDIUM) (VEG.)

INTENDED USE

For differentiation of marine bacteria by fermentative and oxidative metabolism of carbohydrates.

PRODUCT SUMMARY AND EXPLANATION

This medium is prepared by replacing Casein enzymic hydrolysate with Veg hydrolysate which is free from BSE/TSE risks. MOF Veg Medium is the modification of MOF Medium which is a modified version of the formula originally developed by Leifson; used for differentiating oxidative and fermentative carbohydrate metabolising marine bacteria.

For differentiating the fermentation and oxidation of carbohydrates, inoculate two tubes of medium containing carbohydrate with each culture to be tested. Cover one tube of each culture by sterile melted petrolatum to form a layer about one inch in height. The marine bacteria which change the colour of the medium in both the tubes from red to yellow are carbohydrate fermenters and those which change the medium from red to yellow in the open (uncovered) tube only, are carbohydrate oxidizers. No change in the covered medium and an alkaline reaction in the uncovered medium by the marine bacteria are neither oxidative nor fermentative.

COMPOSITION

Ingredients	Gms / Ltr
Veg hydrolysate	1.0
Yeast extract	0.100
Tris hydroxymethyl aminomethane	0.500
Boric acid	0.011
Ammonium sulphate	0.500
Disodium phosphate	0.004
Ammonium nitrate	0.0008
Sodium chloride	9.700
Magnesium chloride	4.400
Sodium sulphate	1.600
Calcium chloride	0.900
Potassium chloride	0.275
Sodium bicarbonate	0.080
Potassium bromide	0.040
Strontium chloride	0.017
Sodium silicate	0.002
Sodium fluoride	0.0012
Phenol red	0.010
Agar	3.000



PRINCIPLE

Veg hydrolysate and yeast extract supply the necessary nitrogenous nutrients including amino acids, vitamins etc. The mineral content of this medium is equivalent to one- half that of sea water. It contains a variety of salts found in seawater which not only make the medium suitable for marine bacteria but also buffers the medium. Phenol red is the pH indicator in the medium.

INSTRUCTION FOR USE

Dissolve 22.14 grams in 1000 ml distilled water.

Heat to boiling to dissolve the medium completely.

Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

Cool to 55-60°C and aseptically add sterile dextrose solution (or other carbohydrate of choice) to a final concentration of 1%.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Pink coloured, homogeneous, free flowing powder.

Appearance of prepared medium : Red coloured, clear gel forms in tubes as butts.

pH (at 25°C) : 8.0±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Motility	Acid	Gas	Incubation Temperature	Incubation Period
Vibrio cholerae	15748	50-100	Luxuriant	Positive, growth away from stabline causing turbidity	Positive reaction, yellow colour	Positive reaction	35-37°C	18-24 Hours
Vibrio parahaemolyticus	17802	50-100	Luxuriant	Negative, growth along the stabline, surrounding medium remains clear	Negative reaction	Negative reaction	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.

