

CM 21135 - MAINTENANCE (SCY) MEDIUM

INTENDED USE

For maintenance of iron bacteria.

PRODUCT SUMMARY AND EXPLANATION

Iron bacteria are considered to be capable of metabolizing reduced iron present in their aqueous habitat and depositing it in the form of hydrated ferric oxide on or in their mucilaginous secretions. The large amount of brown slime so produced will impart a reddish tinge and an unpleasant odour to drinking water and may render the supply unsuitable for domestic or industrial purposes.

Maintenance (SCY) Medium is prepared in accordance with APHA and is used for the maintenance of iron bacteria.

Isolation and maintenance media have proven successful for identifying various groups of filamentous organisms including iron bacteria. Iron bacteria, especially those belonging to Sphaerotilus-Leptothrix group thrive in this media, which is too dilute to support proliferation of more rapidly growing organisms.

Prepare agar slants and aseptically pipette 3 ml sterile tap water on the slant surfaces. Inoculate and incubate at room temperature until turbid growth develops in liquid layer. The cells remain viable for 3 months at refrigeration temperature.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	0.910
Papaic digest of soyabean meal	0.030
Yeast extract	0.250
Sucrose	1.000
Sodium chloride	0.050
Dipotassium hydrogen phosphate	0.020
Thiamine	0.0004
Agar	10.000

PRINCIPLE

Casein enzymic hydrolysate, yeast extract, papaic digest of soyabean meal and thiamine in the medium provide the necessary carbon, nitrogen, vitamins and minerals. Sucrose is the carbon source. Dipotassium phosphate provides buffering to the medium and sodium chloride provides the essential ions.

INSTRUCTION FOR USE

Dissolve 12.26 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.

Aseptically add filter-sterilized solution of cyanocobalamin to a final concentration of 0.01 mg/liter.

Mix well and dispense as desired.

QUALITY CONTROL SPECIFICATIONS



Appearance of Powder : White to cream homogeneous free flowing powder.
 Appearance of prepared medium : Cream coloured clear to slightly opalescent gel forms in Petri plates or in tubes as slants.
 pH (at 25°C) : 7.3±0.2

INTERPRETATION

Cultural characteristics observed after an incubation with added cyanocobalamin.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Leptothrix discophora	43182	50-100	luxuriant	25-30°C	48-72 Hours
Sphaerotilus natans	13338	50-100	luxuriant	25-30°C	48-72 Hours
Thiobacillus thioparus	8158	50-100	luxuriant	25-30°C	48-72 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. Eaton A. D., Clesceri L. S., Rice E. W. and Greenberg A. W. (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
2. Van Veen W. L., 1973, Antonie Van Leeuwenhoek (Holland), 39:189

