

Technical Information

Chlorella Broth

Product Code: DM 1886

Application: - Chlorella Broth is recommended for cultivation and enumeration of *Chlorella* species.

Composition**

Ingredients	Gms / Litre
Cupric sulphate	0.000008
Sodium molybdate	0.00005
Zinc sulphate	0.00022
Boric acid	0.00028
Manganese sulphate	0.0014
Ferrous sulphate	0.0015
Potassium citrate	0.032
Potassium sulphate	0.217
Magnesium sulphate	2.400
Monopotassium phosphate	2.450
Potassium nitrate	2.500
Dextrose	10.000
Final pH (at 25°C)	4.5±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Chlorella is a genus of single-celled green algae, belonging to the phylum Chlorophyta. Chlorella Broth was originally formulated by Shrift (1) and further modified for cultivation and maintenance of *Chlorella*.

All algae utilize inorganic phosphates and sulphates. There is a fairly high requirement of molybdate as a trace metal in nitrogen fixation. Algae require calcium, magnesium, potassium and probably sodium. Most algae grow poorly on agar and it is best to let them become established in liquid culture before adapting them to the more rigorous conditions of an agar slant.

Chlorella being photosynthetic green algae, should be cultivated in the presence of light. Bright diffused light, fluorescent light and sunlight are satisfactory sources of light for the growth of *Chlorella*. The inoculated tubes/flasks should be incubated in the presence of light at 25-27°C for a week to permit good growth and pigmentation (2). *Chlorella* cultures can be maintained at room temperature for 2-3 months without sub culturing.

Methodology

Suspend 17.6 grams of dehydrated media in 1000 ml distilled water. Mix thoroughly & heat if necessary to dissolve the medium completely. Distribute as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Appearance

White to cream homogeneous free flowing powder

Colour and Clarity

Colourless clear solution in tubes



Dehydrated Culture Media
Bases / Media Supplements

Reaction

Reaction of 1.76% w/v aqueous solution at 25°C. pH : 4.5±0.2

pH Range

4.30-4.70

Cultural Response

DM1886: Cultural characteristics observed in presence of light after an incubation at 25-27°C for 1 week.

Organism

Growth

Chlorella vulgaris ATCC 9765 good-luxuriant

Euglena gracilis ATCC 12716 good-luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and prepared medium at 2 - 8°C. Use before expiry date on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Shrift, 1954, Am. J. Botany, 41:223.
2. Norris J.R. & Ribbons D.W. (ed.), 1963, Methods in Microbiology, Volume 3B, Academic press, London, pg. 269.

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