



Chlorella Broth Base w/o Dextrose and Citrate

M769

Chlorella Broth Base w/o Dextrose and Citrate is used for cultivation of chlorella.

Composition**

Ingredients	Gms / Litre
Cupric sulphate	0.0000078
Sodium molybdate	0.00005
Zinc sulphate	0.00022
Boric acid	0.00028
Manganese sulphate	0.0014
Ferrous sulphate	0.0015
Potassium sulphate	0.217
Magnesium sulphate	2.400
Monopotassium phosphate	2.450
Potassium nitrate	2.500
Final pH (at 25°C)	4.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 7.6 grams in 900 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Add aseptically 100 ml of separately sterilized solution of 10 gm of dextrose and 32 mg of potassium citrate. Mix well and dispense as desired.

Principle And Interpretation

Chlorella is a genus of single-celled green algae, belonging to the phylum Chlorophyta. Chlorella Broth has 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. Calcium, magnesium, potassium and probably sodium are required by algae. 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 Broth Base w/o Dextrose and Citrate is the same as Chlorella Broth except that the citrate and dextrose have been omitted from the medium. This media supplies the necessary nutrients for the rapid growth of *Chlorella* species. *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 subculturing.

Quality Control

Appearance

White to cream homogeneous free flowing powder

Colour and Clarity of prepared medium

Colourless clear solution in tubes

Reaction

Reaction of 0.76% w/v aqueous solution at 25°C. pH : 4.5±0.2

pH

4.30-4.70

Cultural Response

M769: 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

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

Reference

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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