

Wort Agar

Used for the enumeration of yeasts and moulds in butter. It can be modified to isolate osmophilic yeasts from soft drinks and sugar products by adding a higher concentration of sucrose and glucose.

Code: KM1126

Typical Formula	(g/l)
Malt Extract	15.00
Peptone	0.78
Maltose	12.75
Dextrin	2.75
Dipotassium phosphate	1.00
Ammonium chloride	1.00
Agar	15.00

pH: 5.0 ± 0.2

Suspend 48.3 grams of powder and disperse in 1 litre of deionised water. Add 2.35mls of glycerol. Allow to stand for 10 minutes, then swirl to mix and sterilise by autoclaving at 121 C for 15 minutes. Use 60gms per litre if required for inoculation by plate streaking with a wire loop. Do not exceed time or temperature of sterilisation. If osmophilic modification is required add 48.3 grams of powder to 1 litre of a solution containing 35% w/v sucrose and 10% w/v glucose then sterilise at 108°C (5 p.s.i.) for 20 minutes.

Q.C. organisms: *S. cerevisiae*.

Storage: Plates up to 7 days at 2-8°C in the dark. Capped container up to 1 month at 15-20°C in the dark.

Inoculation: Pour plate or surface spread.

Incubation: 25°C aerobically for 5 days.

Wort Broth

A broth version of Wort Agar for the enumeration of yeasts and moulds in butter. The medium can be modified for the isolation of osmophilic yeasts from soft drinks and sugar products by the addition of high concentrations of sucrose and glucose.

Code: KM1127

Typical formula	(g/l)
Malt Extract	15.00
Peptone	0.78
Maltose	13.00
Dextrin	2.50
Dipotassium phosphate	1.00
Ammonium chloride	1.00

pH: 4.8 ± 0.2

Suspend 33.3 grams of powder and disperse in 1 litre of deionised water, add 2.35mls. of glycerol. Allow to stand for 10 minutes, swirl to mix then sterilise by autoclaving at 121°C for 15 minutes. If osmophilic version is required disperse 33.3 grams of powder in 1 litre of a solution of 35% w/v sucrose and 10% w/v glucose then sterilise at 108°C (5 p.s.i.) for 20 minutes.

Q.C. organisms: *S. cerevisiae*.

Storage: Capped container up to 1 month at 15-20°C in the dark.

Incubation: 25°C aerobically for 5 days.

References

- Parfitt, E. H. 1933. The influence of media upon the yeast and mould count of butter. *J. Dairy Sci.* 16: 141-147.
- Scarr, M. P. 1959. Selective media used in the microbiological examination of sugar products. *J. Sci. Fd. Agric.* 10: 678-681.

WL NUTRIENT AGAR

A medium for the control of beer manufacturing processes

Code: KM1125

Typical formula	(g/l)
Yeast Extract	4.00
Tryptone	5.00
Glucose	50.00
Agar	15.00
Monopotassium Phosphate	0.55
Potassium Chloride	0.425
Calcium Chloride	0.125
Magnesium Sulphate	0.125
Ferric Chloride	2.500 mg
Manganese Sulphate	2.500 mg
Bromocresol Green	22.000 mg

pH 5.5 +/- 0.2

Directions

Suspend 75g in 1000ml of cold distilled water, heat to boiling with frequent agitation and sterilise by autoclaving at 121°C for 15 minutes.

Description

WL Nutrient Agar is recommended by the Wallerstein Laboratory to check beer manufacturing processes, and those of fermentation products in general. The medium is prepared according to the original formula of Gray and Green for the examination of beer and bread fermentation microorganisms. WL Nutrient Agar supports excellent growth of yeasts (and also of some bacteria if present in the specimen in small numbers). The addition of cycloheximide (4mg/litre) to the medium completely inhibits the growth of yeasts and permits the development of the bacterial flora involved in the fermentation process. The medium may be used at pH 5.5 or at the pH 6.5 by making less acidic with 1% sodium carbonate to foster the development of different fermentation yeasts. At pH 5.5 beer fermentation yeasts grow very well; at pH 6.5 the yeasts of beer and distilled products. If incubation occurs under anaerobic conditions cocci and lactobacilli develop; if incubated under aerobic conditions, aceto-acetic bacteria and thermobacteria grow. Incubation at 25°C is recommended for beer yeasts, and 30°C for bread yeasts; the incubation period recommended for all the microorganisms is 10-14 days.

Quality assurance (without Cycloheximide, 25°C -48 hrs)

Productivity control

S.cerevisiae ATCC 9763

Storage

Dehydrated medium: 15-30°C

User prepared plates: 15 days at 2-8°C

Reference

Green & Grey - Wallerstein Lab. Comm., 13, 357 (1950).